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STATISTICAL SUMMARY OF MARKET INFORMATION

Item	Unit or base period	1960 Year	1960 Jan.-Mar.	1960 July-Sept.	1960 Oct.-Dec.	1961 Jan.-Mar.
Farm-to-retail price spreads 1/						
Farm-food market basket:						
Retail cost	Dol.	1,052	1,030	1,057	1,065	1,069
Farm value	Dol.	408	398	405	419	421
Farm-retail spread	Dol.	644	632	652	646	648
Farmer's share of retail cost	Pct.	39	39	38	39	39
Cotton: 2/						
Retail cost	Dol.	2.17	2.15	2.18	2.19	---
Farm value	Dol.	.30	.30	.29	.29	---
Farm-retail spread	Dol.	1.87	1.85	1.89	1.90	---
Farmer's share of retail cost	Pct.	14	14	13	13	---
Cigarettes: 3/						
Retail cost	Ct.	27.2	---	---	---	---
Farm value	Ct.	4.02	---	---	---	---
Federal and State excise taxes	Ct.	12.7	---	---	---	---
Farm-retail spread excluding excise taxes	Ct.	10.5	---	---	---	---
Farmer's share of retail cost	Pct.	15	---	---	---	---
General economic indicators						
Consumers' per capita income and expenditures: 4/						
Disposable personal income	Dol.	1,969	1,939	1,983	1,977	1,964
Expenditures for goods and services	Dol.	1,824	1,807	1,821	1,826	1,809
Expenditures for food	Dol.	394	390	393	396	---
Expenditures for food as percentage of disposable income	Pct.	20.0	20.1	19.8	20.0	---

		1960 Year	1960 Feb.	1960 Dec.	1961 Jan.	1961 Feb.
Hourly earnings, production workers, manufacturing 5/	Dol.	2.29	2.29	2.32	2.32	2.31
Hourly earnings of food marketing employees 6/	Dol.	2.14	2.12	2.17	2.20	2.20
Retail sales: 7/						
Food stores	Mil. dol.	4,485	4,400	4,502	4,563	4,601
Apparel stores	Mil. dol.	1,142	1,133	1,100	1,144	1,148
Manufacturers' inventories: 7/						
Food and beverage	Bil. dol.	4.98	4.82	4.98	5.00	5.01
Textile	Bil. dol.	2.67	2.65	2.67	2.70	2.73
Tobacco	Bil. dol.	2.03	1.95	2.03	2.01	1.98
Indexes of industrial production: 8/						
Food and beverage manufactures	1957=100	109	107	110	110	109
Textile mill products	1957=100	109	111	98	99	102
Apparel products	1957=100	124	122	119	113	116
Tobacco products	1957=100	114	108	115	112	---
Index of physical volume of farm marketings	1947-49=100	131	100	143	143	104
Price indexes						
Consumer price index 5/	1947-49=100	126.5	125.6	127.5	127.4	127.5
Wholesale prices of food 5/	1947-49=100	106.0	102.7	107.3	107.7	108.4
Wholesale prices of cotton products 5/	1947-49=100	94.2	95.8	91.2	90.7	90.1
Wholesale prices of woolen products 5/	1947-49=100	102.1	103.2	100.8	100.0	99.7
Prices received by farmers 9/	1947-49=100	88	86	89	89	90
Prices paid by farmers 9/	1947-49=100	115	115	115	115	115

1/ Average quantities of farm food products purchased per wage-earner or clerical-worker family in 1952. 2/ Data for average family purchases in 1950 of 25 articles of cotton clothing and housefurnishings divided by number of pounds of lint cotton required for their manufacture; see U.S. Dept. Agr. Mktg. Res. Rpt. 277. 3/ Preliminary data for package of regular-sized, popular brand cigarettes; farm value is return to farmer for 0.065 lb. of leaf tobacco of cigarette-types; data for fiscal year beginning July 1, 1960. 4/ Seasonally adjusted annual rates, calculated from Dept. of Commerce data. First quarter 1961 data are from preliminary estimates by the Council of Economic Advisers. 5/ Dept. Labor. 6/ Weighted composite earnings in food processing, wholesale trade, retail food stores, calculated from data of Dept. Labor. 7/ Seasonally adjusted, Dept. Commerce. Sales data for 1960 are averages of monthly totals. Inventory data for 1960 are book values at end of year. 8/ Seasonally adjusted, Board of Governors of Federal Reserve System. 9/ Converted from 1910-14 base.

THE MARKETING AND TRANSPORTATION SITUATION

Approved by the Outlook and Situation Board, April 27, 1961

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SUMMARY

Retail prices of domestic farm foods averaged about the same in the first quarter this year as in the fourth quarter of 1960, but they were 4 percent higher than a year earlier. This increase resulted from a 6-percent rise in farmers' prices for these food products and a 3-percent rise in charges for marketing them.

Marketing charges in the first 3 months of this year averaged about the same as in the preceding quarter. A moderate rise in marketing charges is likely in the months ahead. Operating costs of firms marketing farm food products in the first quarter this year were a little higher than a year earlier. A 4-percent rise in average hourly earnings of food marketing workers probably exceeds increases in output per man-hour. Prices of some items marketing firms buy are higher, but others are down. Transportation charges are expected to average a little higher this year because of small increases in railroad freight rates that became effective in October 1960.

Farmers received 39 cents of the consumer's retail food dollar in the first quarter this year, the same share as in the preceding quarter and in the first quarter of 1960.

Expenditures for food increased to $394 per person in 1960, up from $387 in 1959. Consumers spent about 20 percent of their disposable income for food in 1960, about the same proportion as in the preceding year. The percentage spent for food has declined from a high of 27 percent in 1947.

Net profits (after taxes) of leading corporations processing farm food products totaled about the same in 1960 as in 1959. But profits of the meatpacking companies were down sharply from the relatively high 1959 levels. Sugar companies also had lower profits. These decreases were about offset by increases for other industry groups.

Profits of distilling companies and textile products manufacturers were down considerably. Tobacco companies' profits were up. Profits of leading chain food store companies were up slightly. Profits in 1960 as a percentage of sales were

unchanged or down from 1959 levels for most industry groups; profits as a percentage of net assets were down for all industry groups except brewing companies.

Highlights of Special Articles

1. Farmers in Alaska generally market their products either through a farmers' cooperative or sell directly to retailers and consumers. Their food products usually are not shipped far from producing areas. The output of Alaskan farm products has been too small to attract private marketing firms. Retail prices are higher in Alaska than in the other States. Farm products likewise bring high prices, but farmers' costs are high. Farm output has grown rapidly in Alaska in recent years and further growth is expected. (See Marketing Farm Products in Alaska - Our 49th State, pp. 15-26).

2. Employees in factories processing farm foods produced on the average 40 percent more per man-hour in 1960 than in 1947-49. Technological improvement in capital goods probably contributed most to this growth. An increase in total capital per worker and improvement in education, training, and experience of employees also helped. Because of the gains in output per man-hour, labor costs per unit of product increased less than a third as much as average hourly earnings of employees from 1947-49 to 1960. (Output Per Man-Hour and Labor Costs in Food Processing, pp. 27-32).

3. Technological changes in the food processing industry have been accompanied by increases in the employment of scientists and technicians. Salaries of these employees are among the highest in the industry. About 15,400 of these workers were employed by food and kindred products manufacturing companies in 1959; of these, 10,200 were scientists and engineers. (Scientific Workers in the Food Manufacturing Industries, pp. 33-36).

4. Farm-retail spreads for medium-size turkeys in five major cities in the United States averaged 9 percent higher during October - December 1960--the heavy marketing season--than in October-December 1959. The increase was in the retail store segment of the spread. Prices at all market levels were higher in 1960 than in 1959. Farm-retail spreads for large turkeys also were wider and prices of these birds were higher at retail but were lower at other market levels. (Marketing Spreads for Turkeys in Selected Cities, pp. 37-42).

FARM-RETAIL PRICE SPREADS FOR FARM FOOD PRODUCTS

Farm Value Up 6 Percent From Year Ago

The farm value of the market basket of farm foods rose to an average annual rate of $421 in the first quarter of 1961, 6 percent above the first quarter last year. 1/ Nearly all of this increase came in the fourth quarter last year and the first quarter this year (table 1). The farm value for each major product group except fruits and vegetables increased during the year ended in March (table 2). Meat products, poultry and eggs, and fats and oils accounted for

1/ The "market basket" contains the average quantities of farm-produced food products purchased per family in 1952 for consumption at home by urban wage-earner and clerical-worker families. Additional information concerning the contents of the market basket and methods of estimating market-basket data are given in Farm-Retail Spreads for Food Products, U. S. Dept. Agr., Misc. Pub. 741, 1957. The farm value is the payment farmers receive for the farm products equivalent to the foods in the market basket.

Table 1.--The farm food market basket: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, 1947-61 1/

Year and month	Retail cost 2/	Farm value 3/	Farm-retail spread	Farmer's share
	Dollars	Dollars	Dollars	Percent
1947	911	467	444	51
1948	982	497	485	51
1949	928	435	493	47
1947-49 average	940	466	474	50
1950	920	432	488	47
1951	1,024	497	527	49
1952	1,034	482	552	47
1953	1,003	445	558	44
1954	986	421	565	43
1955	969	395	574	41
1956	972	390	582	40
1957	1,007	401	606	40
1958	1,064	430	634	40
1959	1,040	398	642	38
1960 4/	1,052	408	644	39
1960				
Jan.	1,030	388	642	38
Feb.	1,028	394	634	38
Mar.	1,032	412	620	40
Apr.	1,053	416	637	40
May	1,054	411	643	39
June	1,060	406	654	38
July	1,063	409	654	38
Aug.	1,055	402	653	38
Sept.	1,054	404	650	38
Oct.	1,062	413	649	39
Nov.	1,065	421	644	40
Dec.	1,068	422	646	39
1961				
Jan.	1,068	420	648	39
Feb.	1,070	426	644	40

1/ The farmer's share and index numbers of the retail cost, farm value, and farm-retail spread for the years 1913-59 are published in Supplement for 1956-60 to Farm-Retail Spreads for Food Products, U.S. Dept. Agr. Misc. Pub. 741, 1961.

2/ Retail cost of average quantities purchased per family in 1952 by urban wage-earner and clerical worker families, calculated from retail prices collected by the Bur. Labor Statistics.

3/ Payment to farmers for equivalent quantities of farm produce minus imputed value of byproducts obtained in processing.

4/ Preliminary estimates.

Current data are given in the Statistical Summary, a monthly publication of the Statistical Reporting Service.

Table 2.--The market basket of farm foods: Retail cost, farm value, and farm-retail spread, January-March, 1960 and 1961

Product group	Jan. - Mar. 1961	Jan. - Mar. 1960	Change: Jan. - Mar. 1960 to Jan. - Mar. 1961	
			Actual	Percentage
	Dollars	Dollars	Dollars	Percent
	Retail cost			
Market basket	1,068.63	1,029.90	38.73	4
Meat products	284.08	268.57	15.51	6
Dairy products	203.06	199.11	3.95	2
Poultry and eggs	94.52	84.74	9.78	12
Bakery and cereal products	167.27	162.50	4.77	3
All fruits and vegetables	233.14	230.89	2.25	1
Fats and oils	41.76	40.63	1.13	3
Miscellaneous products	44.81	43.46	1.35	3
	Farm value			
Market basket	420.61	398.04	22.57	6
Meat products	149.59	141.70	7.89	6
Dairy products	90.98	89.18	1.80	2
Poultry and eggs	58.39	51.28	7.11	14
Bakery and cereal products	29.77	28.21	1.56	6
All fruits and vegetables	70.51	70.46	.05	1/
Fats and oils	14.15	10.08	4.07	40
Miscellaneous products	7.22	7.14	.08	1
	Farm-retail spread			
Market basket	648.02	631.86	16.16	3
Meat products	134.49	126.87	7.62	6
Dairy products	112.08	109.93	2.15	2
Poultry and eggs	36.13	33.46	2.67	8
Bakery and cereal products	137.50	134.29	3.21	2
All fruits and vegetables	162.63	160.43	2.20	1
Fats and oils	27.61	30.55	-2.94	-10
Miscellaneous products	37.59	36.32	1.27	3

1/ Less than 0.5 percent.

four-fifths of the total increase in the farm value of the market basket. Fats and oils showed a 40-percent rise from the first quarter of 1960.

The farm value of the total fruit and vegetable group did not change significantly from a year earlier. Fresh vegetables declined 21 percent, but this decrease was offset by relatively large increases for fresh and canned fruits.

Higher prices of hogs, eggs, and soybeans were the major reasons for the increase in the farm value of the market basket. Other items which showed sharply higher farm values were apples, oranges, carrots, onions, and canned orange juice. The farm values of potatoes and several fresh vegetables were considerably lower in the first quarter this year than in the same quarter last year.

The farm value of the market basket for the quarter just ended was about the same as in the fourth quarter of 1960 (table 17, p. 44). Decreases in the farm values of the dairy products and poultry and eggs groups were offset by increases in other groups. The farm value of processed fruits and vegetables was 10 percent higher in the January-March quarter than in the preceding quarter, reflecting higher prices paid by processors for 1960-61 crop oranges than for the previous crop.

Prices received by farmers for food products in the market basket probably will average higher than a year ago in the next few months, but may drop below 1960 levels later in the year, mainly because of increased marketings of hogs, eggs, and broilers. Prices of soybeans are expected to continue sharply above last year, at least until new crop supplies become available in the fall. Prices received for manufacturing milk and butterfat in cream, strengthened by higher support prices, are likely to average higher than last year. Potatoes may continue to bring lower prices than last year because of larger current and prospective supplies.

Retail Cost Rises 4 Percent Above Year Earlier

The market-basket retail cost rose 4 percent from the first quarter of 1960 to the first quarter of 1961 (table 2). 2/ Retail costs of all major product groups increased. But the meat products and poultry and eggs groups accounted for two-thirds of the increase as a result of sharp increases in the retail prices of pork and eggs. Moderate increases in prices of cheese and bread helped to boost the dairy products and the bakery and cereal products groups. Prices of potatoes and several fresh vegetables were down sharply from a year earlier.

From the fourth quarter of 1960 to the first quarter this year, the retail cost did not change significantly. Some product groups increased slightly, but these increases were offset by a 5-percent decline in the retail cost of the poultry and eggs group. Retail egg prices dropped seasonally, but the decrease was partly offset by a small increase in the price of frying chickens.

2/ The retail cost of the market basket of farm foods is less than the retail cost of all foods bought per family. The market basket of farm foods does not include imported foods, fishery products and other foods of nonfarm orgin, or costs of meals purchased in public eating places.

Farm-Retail Spread Again Up From Year Earlier

The farm-retail spread of the farm food market basket increased to an average annual rate of $648 in the first quarter this year (table 2). 3/ This level was nearly 3 percent higher than in the like period of 1960, an increase about equal to the average first-quarter-to-first-quarter increase since 1950.

Increases in marketing charges for other commodity groups were partly offset by a 10-percent decrease in charges for marketing fats and oils. Cheese, eggs, and frozen orange juice concentrate had the largest increases in marketing charges, while margarine and shortening had the largest decreases.

Like the farm value and retail cost, the farm-retail spread for the market basket scarcely changed from the fourth quarter of 1960 to the first quarter 1961 (table 18, p. 45). A 6-percent decline for the fats and oils group--the only major change among the product groups--was offset by increases for several other groups.

The 3-percent increase in marketing charges from a year earlier was accompanied by a 4-percent increase in average hourly earnings of food marketing employees. Part of the increase in hourly earnings probably was offset by increased productivity. Wholesale prices of petroleum products were higher in early 1961 than a year earlier. Prices of tires and tubes and metal containers also were higher. These increases were partly offset by decreases in prices of machinery and equipment, container board, and glass containers.

Marketing charges probably will continue to rise moderately. A further rise in labor cost is expected and increases probably will outnumber decreases among prices of items marketing firms buy.

Farmer's Share Unchanged

Farmers received 39 cents of the dollar spent by consumers for domestic farm food products in the first quarter this year. The farmer's share also was 39 cents in the preceding quarter and in the first quarter of 1960.

Between the first quarter in 1960 and the same quarter this year, the proportion of the consumer's dollar returned to farmers did not change much for any product group, except fats and oils for which it increased from 25 to 34 cents.

Sharp Rise in Hog Prices

A sharp rise in prices received by farmers for hogs boosted the farm value of pork (retail cuts) up to a level in January-March this year that was 25 percent higher than a year earlier (table 17, p. 44). This rise was accompanied by a 4-percent increase in the farm-retail spread, so the retail price jumped more than the farm value. At 56.3 cents per pound, the retail price in the first 3 months of this year was 14 percent higher than in the same months of 1960. All the increase in the farm-retail spread resulted from a 15-percent gain in the wholesale-retail segment, as the live-wholesale margin decreased (table 4).

The farm value of pork was about the same in the first quarter this year as in the last quarter of 1960, but the retail price and

3/ The farm-retail spread or difference between the retail cost of the market basket and the farm value is an estimate of charges made by marketing agencies for assembling, processing, transporting, and distributing the products in market basket. The farm-retail spread is also referred to as the marketing margin.

Table 3.--Beef (Choice grade): Live-wholesale and wholesale-retail spreads, by quarters, 1960-61 1/

Quarter	Live-wholesale (per 100 pounds live weight)					Wholesale-retail (per 100 pounds carcass weight)		
	Price of steers 2/	Wholesale value			Spread	Wholesale price 4/	Retail value 5/	Spread
		Carcass 3/	Byproducts	Total				
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1960								
Jan.-Mar.	26.53	27.01	2.19	29.20	2.67	45.78	64.96	19.18
Apr.-June	26.86	27.16	2.33	29.49	2.63	46.03	6/65.68	6/19.65
July-Sept.	25.01	25.60	2.25	27.85	2.84	43.39	6/64.48	6/21.09
Oct.-Dec.	25.28	25.26	2.21	27.47	2.19	42.81	6/63.92	6/21.11
Average	25.92	26.26	2.24	28.50	2.58	44.50	6/64.80	6/20.30
1961								
Jan.-Mar. 7/	25.99	26.27	2.23	28.50	2.51	44.52	65.52	21.00

1/ Quarterly data for 1949-59 are published in Marketing Costs and Margins for Livestock and Meats, U.S. Dept. Agr. Mktg. Res. Rpt. 418, Nov. 1960, tables 26 and 29.
2/ Weighted average of prices at 20 leading public stockyards.
3/ Wholesale carcass value is 59 percent of average wholesale price of 100 pounds of Choice grade carcass beef.
4/ Weighted average of prices of Choice grade carcass beef in New York, Chicago, Los Angeles, San Francisco, and Seattle.
5/ Calculated from average retail prices of beef cuts in urban areas, published by Bur. Labor Statistics. The retail value per 100 pounds carcass weight is 80 percent of average retail cost of 100 pounds of retail cuts, because about 20 pounds of a 100-pound carcass is fat, bone, and trim which is sold by retailers at nominal prices.
6/ Revised.
7/ Preliminary.

Table 4.--Pork: Live-wholesale and wholesale-retail spreads, by quarters, 1960-61 1/

Quarter	Live-wholesale (per 100 pounds live weight)			Wholesale-retail (per 100 pounds major cuts)		
	Price of hogs 2/	Wholesale value 3/	Spread	Wholesale value 4/	Retail value 5/	Spread
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1960						
Jan.-Mar.	14.27	19.68	5.41	38.02	52.05	14.03
Apr.-June	16.94	21.82	4.88	41.79	55.96	14.17
July-Sept.	17.40	22.65	5.25	42.96	58.88	15.92
Oct.-Dec.	18.00	23.20	5.20	43.49	6/58.52	6/15.03
Average	16.65	21.84	5.19	41.56	6/56.35	6/14.79
1961						
Jan.-Mar. 7/	18.16	23.29	5.13	43.25	59.44	16.19

1/ Quarterly data for 1949-59 are published in Marketing Costs and Margins for Livestock and Meats, U.S. Dept. Agr. Mktg. Res. Rpt. 418, Nov. 1960, tables 27 and 30.
2/ Average price of 200-220 pound barrows and gilts, Chicago.
3/ Wholesale value at Chicago of 71 pounds of pork and lard obtained from 100 pounds of live hog.
4/ Wholesale value of 100 pounds of major pork cuts at Chicago computed from Livestock Market News and National Provisioner price quotations of individual cuts.
5/ Calculated from average retail prices of major pork cuts in urban areas, published by Bur. Labor Statistics.
6/ Revised.
7/ Preliminary.

farm-retail spread were a little higher in the quarter just ended. The increase in the spread was caused by an increase in the wholesale-retail margin; the live-wholesale margin declined slightly.

Hog prices are expected to increase seasonally in the early summer, but probably will decline after midyear. During the last half of the year they are likely to be below 1960 levels, but the 1961 average price for hogs is expected to be higher than the 1960 average.

The retail price of Choice grade beef showed a small increase in the first quarter this year from the same quarter last year. The farm value, however, was down slightly. These changes resulted in a 7-percent increase in the farm-retail spread. The wholesale-retail margin increased 9 percent, but this increase was partly offset by a decrease in the live-wholesale margin (table 3).

Both the retail price and farm value of beef were higher in the quarter just ended than in the fourth quarter of 1960. The total farm-retail spread increased 3 percent. The live-wholesale spread increased, but the wholesale-retail spread decreased.

Prices received by farmers for cattle are expected to be relatively stable in the next few months, and they should average about the same this year as in 1960.

Marketing Charges for Eggs Rise 19 Percent

The farm-retail spread for eggs in the first quarter this year was up 19 percent from the relatively low level of the first quarter in 1960. In the first quarter this year the spread was the highest since the third quarter of 1952.

The retail price and farm value of eggs declined seasonally from the fourth quarter of 1960 to the first quarter this year. But in the first quarter both were about 25 percent higher than in the first quarter of 1960. The retail price in the first quarter this year was the highest since January-March 1956, and the farm value was the highest for any quarter since October-December 1958.

For the rest of the year egg prices are expected to be lower than a year earlier, reflecting increased production. The farm-retail spread probably will decline from its present high level during the next few months.

Supplement for 1956-60 to Farm-Retail Spreads for Food Products, United States Department of Agriculture, Miscellaneous Publication No. 741 is now available. The supplement continues through the third quarter of 1960 the statistics for the farm food market basket, presented in Misc. Pub. 741. Current market basket data are published in Situation. Single copies of the supplement may be obtained free by writing the Office of Information, U. S. Department of Agriculture. Orders for more than one copy should be addressed to the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. The price is 25 cents. Please order directly from that office; do not send money to the Department of Agriculture.

Correction in Supplement

The heading for the first column of table 57 in the Supplement for 1956-60 to Misc. Pub. 741 should read: "Retail price per half pound".

NET INCOME OF FIRMS MARKETING FARM PRODUCTS, 1959 and 1960

Net income (after taxes) of leading food processors totaled about the same in 1960 as in 1959 (table 5), according to data compiled by the First National City Bank of New York. Profits of the meatpacking firms dropped sharply from the high level reached in 1959. For sugar companies, profits declined for the third year in a row. These declines were about offset by rises in profits of baking, dairy, and other food products corporations.

Ratios of profits to sales and to net assets generally were lower for food processing companies in 1960. Baking companies and meatpackers had the largest decreases in profits per dollar of sales. Meatpacking and sugar refining companies had the largest decreases in ratios of profits to net assets.

Total net income of leading tobacco companies continued upward in 1960, as did profits of brewing and clothing companies. The distilling companies and textile firms showed decreases in total profits in 1960. Profits as percentage of sales were unchanged or lower in 1960 for all groups. Textile products companies showed the largest drop. Profits as percentage of net assets were higher for the brewing companies in 1960 than in 1959, but were lower for other groups.

Profits after taxes of chain food store companies continued to increase in 1960, but their profits as a percentage of sales declined slightly. The ratio of profits to net assets declined for the third year in a row. Leading department and specialty store companies showed decreases in total profits and profit ratios in 1960.

Table 5.--Net income of leading corporations marketing agricultural products 1959 and 1960

Industrial groups	Number of corporations	Reported net income after taxes: Total		As percentage of net assests 1/		As percentage of sales 2/	
		1959	1960	1959	1960	1959	1960
		1,000 Dollars	1,000 Dollars	Percent	Percent	Percent	Percent
Processing:							
Food - Baking	16	65,730	68,028	11.5	11.4	3.4	3.1
Dairy products	11	103,674	106,289	11.8	11.2	2.6	2.5
Meatpacking	15	71,589	58,468	7.8	6.3	1.0	.8
Sugar	18	32,675	28,729	6.5	5.6	3.0	2.8
Other food products	86	382,514	392,637	11.8	11.4	4.1	4.2
Total	146	656,182	654,151	---	---	---	---
Other:							
Brewing	14	24,124	26,038	7.8	8.1	3.4	3.3
Distilling	13	108,200	102,653	8.0	7.3	3.8	3.7
Tobacco products	17	250,090	261,133	14.9	14.6	5.8	5.8
Textile products	62	213,159	196,528	8.0	6.9	4.2	3.5
Clothing and apparel	53	46,574	48,640	10.5	10.0	3.6	3.5
Distributing:							
Chain food stores	47	229,165	236,283	14.0	13.0	1.4	1.3
Department and specialty stores	47	202,376	191,002	11.0	9.4	2.7	2.4

1/ Book net assets at the beginning of the year are based on the excess of total balance-sheet assets over liabilities.

2/ Profit margins computed for all companies publishing sales or gross income figures, which represent about nine-tenths of total number of reporting companies.

Compiled from "Monthly Letter, Business and Economic Conditions," The First National City Bank of New York, Apr. 1961.

CONSUMER INCOMES AND EXPENDITURES

Consumer disposable income was estimated at an annual rate of $1,964 in the first quarter of this year--a shade lower than in the preceding 3 months but up slightly from the first quarter of 1960. Expenditures per person for all goods and services also dropped slightly from the final quarter last year and savings increased a little.

Consumers spent about 2 percent more per person for food in 1960 than in 1959 (table 6). But since their disposable income per person was up 3 percent, they spent a slightly smaller percentage of their income for food in 1960 than in 1959. Higher prices accounted for about half of this increase in expenditures for food. Sales by retail food stores in the first quarter of this year were up more than 3 percent from a year earlier, so consumer spending for food per person may have been up a bit.

Expenditures for food per person were more than three times as much in 1960 as in 1935-39. About three-fourths of this increase resulted from a rise of 140 percent in prices of food. (The upward movement in prices is shown by the data in the next to the last column of table 6, which give the cost of fixed quantity of food.) Substitution of more expensive foods for less costly foods and purchase of more marketing services with food also accounted for part of the increase. Consumers now buy more meats, fruits and vegetables, and other relatively expensive foods than in 1935-39, and less cereals, potatoes, and other cheaper foods. The proportion of food bought in the form of restaurant meals also has increased.

Though expenditures per person for food have risen nearly every year since 1939, disposable income per person has risen at a faster rate. Thus, the proportion of income spent for food declined from 23.1 percent in 1935-39 to 20.0 percent in 1960. However, the percentage spent for food increased during part of this period, rising from 20.2 percent in 1942 to a record 26.9 percent in 1947. If consumers in 1960 had bought the same kind and quantity of food as they did in 1935-39, the percentage of income spent for food would have declined more. Instead of spending 20.0 percent of their income for food in 1960, they would have spent 14.5 percent (last column of table 6). 1/

Consumers spent $156 per person for clothing and shoes in 1960, compared with $155 in 1959 and an average of $132 in 1947-49. Expenditures for these items have risen at a faster rate than retail prices of apparel, which in 1960 were 9 percent higher than the 1947-49 level. The percentage of income spent for clothing and shoes, however, has trended downward since World War II. It dropped to 7.9 percent in 1960, from 8.1 percent the year before and 10.6 percent in 1947-49.

The proportion of disposable income spent for nondurable goods has decreased since World War II, dropping from an average of 52.6 in 1947-49 to 43.0 percent in 1960. The proportion spent for durable goods has been relatively stable, varying from 12.0 percent in 1948 to 14.4 percent in 1955. It was 12.3 percent in 1960. Expenditures for services increased to 37.2 percent of disposable income in 1960, up from 30.6 in 1947-49. Consumers saved 7.5 percent of their income in 1960, compared with 4.4 percent in 1947-49.

1/ The series showing the estimated total cost of the food consumed per person in 1935-39 in terms of current prices (next to last column) has been revised. The revisions resulted from changes in the weights used to combine the three price indexes used in estimating current costs.

Table 6.--Per capita food expenditure related to disposable personal income. United States, average 1935-39 and 1947-49, annual 1929-60 1/

Year	Disposable personal income 2/	Total expenditure for consumer goods and services 2/	Food expenditure			Cost to consumer of fixed quantities of food representing 1935-39 average annual consumption per person 3/	
			Actual 2/	Percentage of -		Actual	Percentage of disposable income
				Disposable income	Total expenditure for goods and services		
	Dollars	Dollars	Dollars	Percent	Percent	Dollars	Percent
1929	682	648	160	23.5	24.7	156	22.9
1930	604	576	146	24.2	25.3	147	24.3
1931	514	494	118	23.0	23.9	121	23.5
1932	390	395	91	23.3	23.0	100	25.6
1933	364	369	87	23.9	23.6	99	27.2
1934	411	410	96	23.4	23.4	111	27.0
1935	458	442	107	23.4	24.2	120	26.2
1936	516	488	119	23.1	24.4	121	23.4
1937	551	522	127	23.0	24.3	125	22.7
1938	506	497	120	23.7	24.1	115	22.7
1939	537	516	120	22.3	23.3	112	20.9
1935-39 average	514	493	118.5	23.1	24.0	118.5	23.1
1940	576	544	126	21.9	23.2	114	19.8
1941	697	614	145	20.8	23.6	125	17.9
1942	871	665	176	20.2	26.5	148	17.0
1943	976	735	203	20.8	27.6	166	17.0
1944	1,061	793	221	20.8	27.9	165	15.6
1945	1,075	870	244	22.7	28.0	168	15.6
1946	1,136	1,040	288	25.4	27.7	193	17.0
1947	1,180	1,148	318	26.9	27.7	235	19.9
1948	1,291	1,216	329	25.5	27.1	251	19.4
1949	1,272	1,215	311	24.4	25.6	241	18.9
1947-49 average	1,248	1,193	319.3	25.6	26.7	242	19.4
1950	1,369	1,286	312	22.8	24.3	246	18.0
1951	1,474	1,359	346	23.5	25.5	271	18.4
1952	1,520	1,400	355	23.4	25.4	276	18.2
1953	1,582	1,457	355	22.4	24.4	270	17.1
1954	1,582	1,465	355	22.4	24.2	270	17.1
1955	1,660	1,554	358	21.6	23.0	265	16.0
1956	1,742	1,605	370	21.2	23.1	267	15.3
1957	1,804	1,666	381	21.1	22.9	276	15.3
1958	1,826	1,686	388	21.2	23.0	288	15.8
1959	1,905	1,772	387	20.3	21.8	282	14.8
1960	1,969	1,824	394	20.0	21.6	285	14.5

1/ Many of these data have been revised since the table was last published. Data for Alaska and Hawaii not available.

2/ Computed from data of the Dept. Commerce.

3/ Cost to consumers of quantities of food representing average annual consumption per person during 1935-39; calculated by applying to the actual 1935-39 expenditure for food (118.50) a consumer food price index which is a weighted average of indexes representing (a) retail food prices in urban areas (Bur. Labor Statistics), (b) retail food prices in rural areas (Statistical Reporting Service), and (c) prices received by producers applied to foods consumed on farms where produced.

MARKETING OF FARM PRODUCTS IN ALASKA - OUR 49th STATE 1/

Agricultural production is growing rapidly in Alaska, but farmers in our 49th State supply less than 10 percent of the food consumed there. In some areas of the State, it is cheaper to import even perishable products than to produce them locally. Milk, potatoes, eggs, and fresh vegetables are Alaska's principal farm products. Farmers generally market their products jointly through a farmers' cooperative or individually, selling directly to retailers and consumers. There are few assemblers, processors, and other dealers in locally grown farm products. Generally, products are not shipped far from the producing area. Extra shipping costs incurred by all imported foods make retail food prices higher in Alaska than in other States. Locally-produced food products also bring relatively high prices, but Alaskan farmers' costs also are higher than those of farmers in other States. The rate of growth in agricultural production in Alaska and the development of a marketing system will depend mainly on the growth and concentration of population and the proportion of the food market supplied by Alaskan farmers.

This article describes the production and marketing of farm products in Alaska and the market for imported foods, and considers prospects for further growth.

Agricultural Production

Agriculture is a small but growing sector in the Alaskan economy. Receipts from the sale of farm products totaled $3.5 million in 1959--less than 5 percent of the revenue from the fishing industry, Alaska's largest private source of income (table 7). The value of farm products sold, however, doubled between 1949 and 1959.

Cropland totaled about 23,000 acres in 1959, nearly double the acreage in 1949, and 14,292 acres of crops were harvested in 1959, compared with 6,450 acres in 1949. The Bureau of Census enumerated 367 farms in Alaska in 1960. About half of these were part-time farms, with the operators working 100 or more days off the farm. The average value of land and buildings per farm was about $43,000 in 1960, up from $12,500 in 1950. Most farms operated by full-time farmers have electricity, tractors, and other equipment and conveniences.

Milk, the leading farm product in Alaska, accounted for about half of Alaska farmers' receipts from sales of farm products in 1959 (table 7). Potatoes produced about a sixth and eggs an eighth of total receipts. Sales of animal products other than milk and eggs accounted for slightly more than a tenth of total receipts, and sales of lettuce, cabbage, carrots, and other vegetables and greenhouse and nursery products contributed a little less than a tenth.

Sales of meats (Alaskan farmers sell mostly farm-slaughtered meats rather than meat animals) are largely limited to beef from slaughtered cull dairy cows, fresh pork, reindeer meat, and hens. Reindeer are raised commercially in a few herds in western Alaska. These animals supply a significant part of the meat supply of the native population. Small quantities of range beef from Kodiak and Cherikof Islands are marketed in Anchorage. A few farmers, mostly

1/ Prepared by H. P. Gazaway, agricultural economist, Marketing Economics Division, Economic Research Service.

Table 7.--Receipts from sales of farm products, Alaska, 1959

Product	Tanana Valley	Matanuska and Anchorage areas	Southeast Alaska	Other	Total
	1,000 dollars	1,000 dollars	1,000 dollars	1,000 dollars	1,000 dollars
Milk	175.4	1,438.2	141.6	15.9	1,771.1
Eggs	60.3	178.8	73.5	111.1	423.7
Poultry meat	3.6	9.0	1.8	6.9	21.3
Beef	10.8	44.0	9.6	59.1	123.5
Pork	8.0	65.3	---	5.5	78.8
Lamb and mutton	---	1.0	---	3.5	4.5
Reindeer meat	---	---	---	134.4	134.4
Wool	---	.2	---	62.0	62.0
Fur	---	---	50.0	---	50.0
Potatoes	107.9	447.8	.7	22.5	578.9
Other vegetables	18.9	201.4	4.9	19.2	244.4
Greenhouse and nursery products	9.8	7.7	.8	1.5	19.8
Total	394.7	2,393.4	282.9	441.6	3,512.6

Alaska Division of Agriculture, Farm Production, Alaska--1959.

in the vicinity of Anchorage, sell fresh pork. Wool has been produced on the Aleutian Islands since before World War II and shipped to Portland and Seattle. A few farms in southeastern Alaska produce fur-bearing animals, but revenue from sales of fur is small. A considerably larger quantity of furs is obtained by trapping wild animals. Except for growing potatoes and other vegetables, cropland is used to grow feed for dairy cows, mainly hay and silage.

The Matanuska Valley is the principal agricultural area in Alaska. This valley surrounds Palmer, which is 48 miles northeast of Anchorage. In 1935 the Federal Government seattled 202 farm families in this region, causing a big expansion in the agricultural production of the area. Several of these settlers still farm there. Farmers in the Matanuska Valley and a few near Anchorage accounted for about 68 percent of the value of farm products sold in 1959. These farmers supply mainly the Anchorage market and the Armed Forces. The Tanana Valley around Fairbanks accounted for about 11 percent of the total revenue, and the southeastern region about 8 percent. The remaining 13 percent was contributed by farms in the Kenai Peninsula, Kodiak Island, and other areas.

Marketing Alaskan Farm Products

Alaskan farmers generally do not produce a larger volume of food products than can be sold to consumers in nearby areas. To sell in more distant markets, farmers would have to take lower prices for their products. With existing production and transportation costs, production for distant markets would not be profitable. Alaskan food products generally are not shipped between those areas of the State where water transportation is used. Also, direct water transportation often is not available from Anchorage or Seward to Bethel or Nome or to ports in southeastern Alaska--shipments have to go through Seattle. Farm products produced in the interior of Alaska have a transportation disadvantage in competing with products from other States in the markets of southeastern Alaska.

Most Alaskan farmers market their products through a farmers' cooperative or sell them directly to retailers, consumers, or the Armed Forces. There are few processors and few middlemen who deal in farm products in Alaska. Farmers' cooperatives handle approximately 90 percent of the fresh milk and half of the potatoes and other vegetables. The Matanuska Valley Farmers' Cooperating Association of Palmer markets milk in Anchorage, Fairbanks, and other areas. Producers individually market most of the eggs and meats directly to retailers and consumers. A cooperative marketing organization in Oregon handles most of the wool. Fur producers ship directly to buyers in other States.

The Market for Food in Alaska

Population

Alaska had 226,000 inhabitants in 1960, up from 128,600 in 1950. This increase of 76 percent compares with an increase of 18 percent for the entire United States. Although few of the 1960 Census data are available for Alaska, it is evident that much of the growth in the State's population resulted from migration from other States, caused directly and indirectly by increases in defense and other Federal expenditures. The establishment of a woodpulp industry in southeastern Alaska also attracted migrants. It is likely that the native population increased substantially, mainly because of a reduction in the infant mortality rate and an increase in life expectancy at other age levels. The native population--

Eskimos, Indians, and Aleuts--made up about a fifth of the total population in 1960.

Less than 1 percent of the population lived on farms in 1960. The proportion in urban areas has increased since 1950. Though only about two-fifths of the population in Alaska was urban in 1960, a considerably larger proportion lived in towns and villages too small to be classed as urban by the Census definition (places having 2,500 or more inhabitants).

Alaskans, in general, are a young people. Few are older than 65. Not many of the inhabitants, except those of native stock, were born in the State. Of those who migrated, few have been in Alaska more than 20 years; most came during or since World War II. Though people came from every State, most came from west of the Mississippi.

The population, both civilian and military, is largely concentrated in south central Alaska near Anchorage and Fairbanks. These cities are connected by the Alaska Railroad. The area between them is called the "Railbelt;" it contains almost two-thirds of the State's population.

A Profile of the Leading Cities

Anchorage, Alaska's largest city, had a population of about 44,000 in 1960. It serves a trading area that includes perhaps 90,000 inhabitants. The Armed Forces, which maintain two large installations there, are the principal source of income. Merchants of the city are intent on making it the main trading and wholesale center for interior and western Alaska. The Census of Business showed that Anchorage had 96 wholesale establishments of all types in 1958, compared with 13 in 1948. Establishments selling groceries made up the largest group. Seaport facilities are being constructed at Anchorage. The city has become an international air crossroads with flights to all points of the compass--Tokyo, Copenhagen, Paris, New York, and San Francisco. The area has a marine-type climate with an annual snowfall of 60 inches and total precipitation of 14 inches. Oil and gas were discovered in 1957 on the Kenai Peninsula, 40 air miles southwest of Anchorage. Explorations for oil have stimulated business in Anchorage.

Fairbanks, the second largest city, is located 360 miles north of Anchorage. It had a city population of 13,300 in 1960 and close to 50,000 in the trade area. The city is the terminus of both the Alaska Railroad and the Alaska Highway. Military payrolls dominate the local economy. Two large military installations are in the area. The DEW line (Distant Early Warning radar system) stations and two sizeable defense installations are supplied largely through this city. Fairbanks is 130 miles south of the Arctic Circle; it is the jump-off place for the Arctic. The University of Alaska is situated 4 miles west of Fairbanks. The city originally developed as a gold mining center, but the gold mining industry is declining. Several dairy farms are being developed in the Tanana Valley near Fairbanks. Eggs, potatoes, vegetables, and feed grains are also grown. Farming developed there before World War I.

Juneau, the capital city, originally developed as a gold mining town, but its economy now depends mainly on State and Federal payrolls, fishing, tourism, and lumbering. Nearly 10,000 people live in the Juneau trading area. Juneau residents anticipate the location in their area of a pulpmill similar to pulpmills in Ketchikan and Sitka. The Juneau area is not connected to the rest of Alaska by a highway or railroad. From June to October, it is linked with Haines and the Alaska Highway by ferry boat. Juneau is a port of call for ocean carriers, and it has regularly scheduled flights to Seattle, Anchorage, and Fairbanks. At the last election Alaska voters approved a $23 million bond issue to establish a ferry boat system for southeastern Alaska and provide service between Kodiak and the Kenai Peninsula. When this system is established Juneau residents and visitors will have easy

access to the Alaskan and Canadian highway systems. At the same election the voters defeated a referendum to move the capital to south central Alaska. Four modern dairy farms supply the area with milk and ice cream. Several farmers produce eggs, vegetables, and potatoes.

Ketchikan, the salmon capital of the world, is the first port of call for Alaska bound water or airborne travelers. It is located on an island near the southeastern tip of the Alaska panhandle and is 90 miles from the nearest rail and highway terminus, Prince Rupert, B.C., and 600 miles north and west of Seattle. Distances from Ketchikan to other points in Alaska show the State's immense size. Point Barrow and Nome are 1,400 miles north and west; Attu, the tip of the Aleutian Islands, is some 2,400 miles west, almost directly north of New Zealand. Air service via float planes to nearby Annette Island connects Ketchikan with Alaska-Seattle flights. Ketchikan had 6,500 inhabitants in 1960. The city serves a trading area with a population of about 10,000. Major industries, in addition to fishing and salmon canning, are lumbering and woodpulp manufacturing. Pulp is loaded in rail cars at the pulpmill and barged south to Prince Rupert, where rail shipment to other States begins. An important function of the food trade in Ketchikan is supplying lumber camps, fishing boats, and Coast Guard boats. Agriculture in the area is limited to the production of eggs, vegetables, floral and nursery plants, usually by part-time operations. Land suitable for cultivation is scarce and heavily timbered and would require drainage and large quantities of fertilizer for crop production.

Consumer Incomes, Employment, and Expenditures

Disposable income per person has averaged close to $2,500 in Alaska in recent years, compared with other States' average of about $1,900. Most of the income in the State is in the form of wages and salaries, which are higher than in other States. But living costs also are higher in Alaska. A study in 1959 indicated that living costs in Alaska's leading cities, relative to those in Seattle, varied from 19 percent higher in Ketchikan to 48 percent higher in Nome. 2/ Approximately 90 percent of the goods Alaskans buy are shipped from other States, mostly through Seattle. (See p. 22). Alaskans spend a larger proportion of their income for food than do consumers in the other States. Reasons other than higher prices, are the larger proportion of workers employed in nonsedentary jobs, the large proportion of active, outdoor people, and the cold winter climate.

The Federal Government is by far the largest source of employment in Alaska. Federal expenditures, largely for defense, have averaged about $400 million annually in recent years, or $1,500 to $2,000 per capita. Construction of defense installations has been a major source of employment. The number of Armed Service personnel stationed in Alaska exceeds the number of Federal and State Government employees, the largest group of civilian employees in the State. The largest group of non-government employees are in retail and wholesale trade. Construction and transportation rank next, followed by manufacturing. Salmon canneries, pulpmills, and sawmills afford most of the manufacturing employment.

The Military Market

The quantity of many consumer goods bought by or for members of the Armed Forces stationed in the Railbelt may equal that bought by the civilian population. The Armed Forces buy goods for troop issue and for resale in post commissaries, exchanges, and clubs. In recent years the military services have been the Alaska farmers' major customer. Products sold to the military generally bring lower prices than sales to other buyers. In 1960 farmers in the Matanuska

2/ Alaska Department of Natural Resources, 1959 Consumer Price Index in Seven Alaskan Cities.

Valley contracted to supply troops in the Anchorage area with fresh milk rather than recombined milk. This action obligated these farmers to increase their production by a half. The Seattle Military Subsistence Supply Agency ships food items from other States to five commissaries in Alaska via water and rail and by truck over the Alaska Highway, a mode of shipment that has increased in importance in recent years. To supply troops in the Fairbanks area last fall, fresh milk was hauled over the Alaska Highway from Rochester, Minnesota, a distance of about 3,300 miles.

Marketing Facilities and Channels

Transportation

Transportation has particular significance for Alaska because of the great distance between points in the State and to points in other States from which Alaskans import most of the goods they buy. The frequent lack of back-haul shipments makes high transportation rates between Alaska and other States. Also because of provisions in the Merchant Marine Act of 1920, shipments between points in other States and Alaska must be in ships of American registry, thus preventing use of foreign ships that offer lower rates. Transportation facilities and the handling of shipments have greatly improved since World War II.

In addition to steamship transportation, Alaska is served by barges along the Inside Passage from Seattle and Prince Rupert, B. C. Extensive use is being made of van containers. After a van container is loaded it is mounted on a tractor-drawn trailer chassis and hauled to shipside. The loaded van is lifted on the ship's deck for the ocean part of the voyage. On arrival at an Alaskan port, the van is lifted to a railroad flat car for further shipment, then transferred again to a tractor-drawn chassis for delivery to its final destination. Barges, as well as steamships, carry van containers. Refrigerated vans are used for perishables.

The Alaska Railroad joins Seward and Whittier, the later mainly a military port, with Anchorage and Fairbanks. Branch lines run to Palmer and a few other points near the main line. The railroad provides frequent freight service from the two ocean ports to Anchorage and Fairbanks. The Federal Government built the Alaska Railroad in the early 1920's and has operated it since it was constructed. A narrow gage railroad connects Skagway in southeastern Alaska with Whitehorse in the Yukon Terrotory.

Paved all-weather roads connect the major towns and cities in central and south-central Alaska. The Richardson Highway, Alaska's most heavily traveled road, connects Fairbanks with the ports at Valdez and Seward. The Alaska Highway gives Alaska an all-year-round route to the other States, although it is not a paved highway. Out-of-state truck shipments usually originate either in Seattle or in the Minneapolis-St. Paul area.

Air transport for freight and passenger service is much used both between other States and Alaska and within Alaska. It is the only transportation available for many towns and villages. Air transport is particularly suitable because of long distances and the limitations of surface transportation facilities. Most towns and villages have landing strips. Alaska has more than half of the world's sea planes.

Alaska has 3,500 miles of inland waterways. River boats formerly were Alaska's principal means of inland transportation, but river traffic has declined steadily. Barges now operate on the Yukon, Kuskokwim, Tanana, and other rivers during summer and early fall.

Shipping costs include more than the actual freight rate. For shipments by water carrier, these costs comprise

wharfage and handling at both ends of the voyage, marine insurance, taxes, and in some instances special crating, packaging, and handling costs. Costs resulting from delay in transit and from pilferage, shrinkage, and spoilage also may be incurred.

Transportation charges for combination water and rail shipments of selected food products and farm supplies from Seattle to Anchorage and Fairbanks are given in the tabulation below:

Commodity	Anchorage Dol. per 100 lb.	Fairbanks Dol. per 100 lb.
Groceries:		
Group 1	2.85	3.69
Group 2	3.10	3.94
Potatoes and onions	2.61	3.21
Fresh meats	7.15	8.84
Fresh fruits and vegetables	6.83	7.74
Lumber	2.12	2.60
Cement	2.09	2.59
Gasoline	2.33	3.31
Hay or straw	2.56	3.25
Grain or mixed feeds	2.58	3.17

These charges were in effect in 1960, and included the basic minimum carload freight rates per 100 pounds and loading and wharfage charges. Valdez, Seward, Anchorage, Palmer, Fairbanks, and other cities along established supply lines received delivery from Seattle in a minimum of 4 to 7 days after ordering.

It is more expensive generally to ship goods into Alaska by truck than by water. Rates on perishables trucked from Seattle to Fairbanks over the Alaska Highway are as high as $9.50 per 100 pounds. One trucking firm advertises that its trucks make this run in 3 1/2 days under all weather conditions. Trucks on this run must provide for refrigerating perishables at the journey's start and keep them from freezing at trip's end.

Air freight is considerably more expensive than surface transportation but the saving in time may justify its use for perishables. Air shipment of perishables reduces the costs of spoilage and packaging. Air freight rates from Seattle to Alaska vary from 15 to 35 cents per pound.

Retailers and Wholesalers

Foods and, perhaps to a lesser degree, most other consumer goods are retailed in Alaska much the same as in cities of a similar size elsewhere--the same commodities, brands, packaging, and similar services. Most retail outlets found in cities of similar size in other States are in the major Alaska cities. These cities are well supplied with retail food stores, some of which are in the supermarket and superette classes. One of the national chains has two supermarkets in Anchorage, but most of the stores are locally owned chains and independents. Stores in southeastern Alaska provide more credit and services than is common for stores in other areas. Traditionally, fishermen have bought goods on credit extending from one fishing season to another. But stores in Juneau and Ketchikan provide less credit and delivery services than formerly.

The larger retail food stores order merchandise from wholesale firms in Seattle and other West Coast cities. Even in Anchorage, where local wholesalers handle most food items, most merchants still order certain types of merchandise from out-of-state suppliers. Some ordering is direct, but most of it is through brokers or salesmen who make regular trips to call on Alaska retailers. Some

out-of-state firms have salesmen or other representatives permanently located in Alaska. Merchants along the Arctic Coast who receive only one or two deliveries each year have larger ordering, storage, and inventory problems and costs than those who receive more frequent deliveries. Local wholesalers serve smaller stores and institutional buyers and provide fill-in orders and some lines for the larger stores. A few years ago most of the stores in the smaller towns and villages ordered merchandise directly from mainland sources, but now more order from Alaskan wholesalers and from retailers in the cities. Total sales of Alaskan merchant wholesalers of groceries and related products were 43 percent larger in 1958 than in 1954.

Prices of Food Products

Retail Prices

Prices of food in retail stores are considerably higher in Alaska than in Seattle, the city from which much of the food consumed in Alaska is shipped. Food prices vary considerably among the major Alaskan cities (table 8). In 1960 a "market basket" of food cost 18 percent more in Ketchikan than in Seattle and 68 percent more in Nome.

Transportation costs mainly account for these price differences, and transportation costs are affected by the distance and volume of shipment and the mode of transport. Shorter distances from Seattle account in part for prices generally being lower in the southeastern Alaskan cities, Ketchikan and Juneau, than in Anchorage and Fairbanks. Cities that receive most of their supplies by surface carriers have lower prices than those that depend more on airfreight. Ketchikan, for example, has frequent steamship service, so even perishable products can be obtained mainly by water. But merchants in cities that have less frequent steamship service must rely mainly on airfreight for shipping perishables. Nome has only one steamship call a year and therefore depends on airfreight for delivery of fresh milk, eggs, fresh fruits and vegetables, and other foods that cannot be stored. In addition to greater distance, dependence on airfreight is another reason for prices being higher in Nome than in Ketchikan and Juneau.

Prices of fresh meats and fruits and vegetables are higher in Alaska relative to Seattle prices than canned goods and dry groceries. This difference is largely explained by transportation costs, which are greater for the fresh products even when surface carriers are used (p. 21).

To the extent that retailers take percentage markups, differences in shipping costs have a magnified effect on retail prices. Thus, products that have higher shipping costs may also have higher dollars-and-cents markups.

Labor and most other costs are higher in Alaska than in other States. Prices also are affected by competitive situations among stores and by competition between locally produced and imported food products. Quality differences also influence some price differentials among cities. For example, most of the beef sold in Nome is frozen, which accounts for prices of beef being lower in Nome than in Fairbanks where reported prices are for fresh beef. Competition with reindeer meat may also be a cause of lower prices for beef in Nome.

Retail prices of food in the major Alaskan cities were slightly lower in 1959 and 1960 than in 1953 and 1954 (table 9), although the average level of retail food prices increased in the United States. Prices in Alaska also declined relative to prices in Seattle. The quality of food products and services improved during this period and a wider variety of merchandise was offered to consumers.

The decline in prices and improvements in quality and services were made possible

Table 8.-- Retail prices of selected foods and total cost of one unit of each food, major Alaska cities and Seattle, and ratio of Alaska city totals to total cost of items in Seattle, 1960 1/

Food Item	Unit	Seattle	Ketchikan	Juneau	Anchorage	Fairbanks	Nome
		Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Bread	1½ lb.	.35	.42	.47	.47	.45	.55
Ground beef	Lb.	.51	.68	.62	.68	.80	.86
Round steak	Lb.	1.12	1.08	1.12	1.50	1.70	1.31
Chuck roast	Lb.	.67	.73	.74	.84	.98	.92
Bacon	Lb.	.67	.75	.78	.83	.89	.98
Butter	Lb.	.74	.80	.77	.85	.91	1.08
Milk, fresh	Qt.	.24	.36	.35	.42	.50	.79
Milk, evaporated	14½ oz can	.16	.18	.18	.19	.22	.23
Ice cream	Qt.	.53	.87	.73	.74	.86	1.01
Eggs, large A	Doz.	.59	.65	.64	.68	.83	1.04
Apples	Lb.	.18	.25	.29	.31.	.31	.49
Bananas	Lb.	.18	.32	.39	.36	.44	.66
Oranges	Lb.	.19	.25	.29	.30	.29	.46
Strawberries, frozen	10 oz.	.25	.32	.32	.33	.41	.44
Potatoes	Lb.	.08	.10	.10	.11	.10	.18
Carrots	Lb.	.15	.21	.23	.24	.30	.50
Peaches	No. 2½ can	.32	.40	.43	.46	.56	.55
Orange juice	46-oz can	.48	.60	.67	.68	.82	.88
Peas	No. 303 can	.20	.24	.28	.30	.33	.32
Pork and beans	16-oz can	.15	.21	.21	.23	.27	.25
Coffee	Lb can	.75	.78	.76	.79	.88	1.02
Salad dressing	Qt.	.76	.75	.70	.77	.94	.94
Oleo	Lb.	.29	.34	.29	.25	.36	.43
Sugar	10 lbs.	1.20	1.42	1.55	1.52	1.74	2.16
Jello	Pkg.	.09	.10	.11	.12	.13	.14
Total		10.85	12.81	13.02	13.97	16.02	18.19
Percentage of Seattle cost		100	118	120	129	148	168

1/ Annual data are averages of prices for March, June, September and December, except that prices for June were not available for Juneau.

Compiled from Quarterly Report on Alaska's Food Prices, University of Alaska Agricultural Extention Service and Retail Food Prices by Cities, Bureau of Labor Statistics.

Table 9.--Retail cost of market basket of food in three Alaskan cities and ratio to cost in Seattle, 1953-54 and 1959-60 1/

Year	Juneau		Anchorage		Fairbanks	
	Cost	Ratio	Cost	Ratio	Cost	Ratio
	Dollars	2/	Dollars	2/	Dollars	2/
1953	13.33	126	14.77	140	16.45	156
1954	13.47	126	14.76	138	16.36	153
1959	13.22	119	14.49	130	16.03	144
1960	13.01	119	13.97	128	16.02	146

1/ Market basket includes 1 unit of each food product listed in table 2; annual data are averages of prices for last month of each quarter.
2/ Cost of market basket in Seattle = 100.

Compiled from Quarterly Report on Alaska Food Prices, University of Alaska Agricultural Extension Service and Retail Food Prices by Cities, Bureau of Labor Statistics.

through improvements in transportation, greater volume in wholesale and retail outlets, and improved efficiency in the local food trade. Store facilities were modernized and enlarged; procurement practices were made more efficient; and competition increased. "Specials" were offered more frequently. (Weekend special prices, however, are not reflected in data in tables 8 and 9). Increased local food production also was a factor in bringing down prices. Alaska-grown potatoes and vegetables often sell for less than similar imported items.

Prices Received by Farmers

Prices received by farmers for food products, like retail prices are higher in Alaska than in other States. Exactly how much higher is not known, since official price data are not available for Alaska. Farmers' prices skyrocketed after World War II when prices controls were removed, but they rose more slowly during the Korean War. They were fairly stable during the last 5 years. As would be expected, prices of fresh milk and other livestock products varied less from season to season than prices of potatoes and vegetables. Typical prices

received by farmers in the Matanuska valley in 1959 were:

Product	Unit	Dollars
Milk, fresh, 4 percent butterfat	100 pounds	10.50 - 11.50
Eggs, fresh, Grade A large	dozen	.80 - .90
Potatoes, U. S. No. 1	100 pounds	5.50 - 6.50
Carrots	pound	.10 - .12
Cabbage	pound	.10 - .15
Head lettuce	pound	.10 - .15

The regional pattern of variation in prices received by farmers is similar to that in retail prices of foods. Thus, farmers' prices in the Kenai Peninsula and the southeastern Panhandle tend to be 10 to 20 percent lower than those in the Matanuska Valley, which mainly supplies the Anchorage market and military installations in the area. Prices in the Tanana Valley, near Fairbanks, are 10 to 15 percent higher than those in the Matanuska Valley. A similar geographic pattern in farm and retail prices would be expected, because Alaskan products are sold to nearby retailers and consumers and must compete with imported products. Since the geographic pattern of prices of imported products is established mainly by transportation costs, these costs indirectly influence geographic differentials in prices received by farmers.

Alaskan farmers, who perform more marketing services than farmers in other States receive a larger share of the consumer's food dollar. A larger proportion of farmers in Alaska sell directly to consumers and, thus, receive all the consumer's dollar. Do-it-yourself marketing, however, requires allocating to marketing activities labor, time, and capital that the farmer could otherwise devote to producing farm products. Marketing through a farmers' cooperative involves an investment in the cooperative's facilities and working capital.

The Market for Farm Supplies

For fertilizer, farm implements, building materials, and farm supplies Alaskan farmers pay more than do farmers in other States. Generally the prices of these items in Alaska are based on the the wholesale price at Seattle, plus shipping costs and dealer mark-up. In addition to manufactured items, some Alaskan farmers import grain and hay for livestock feed. Individual farmers often order directly from a dealer in another State, or through a representative of a dealer. But direct ordering often involves considerable effort, advanced planning, and capital outlay. Dealers handling farm supplies like fertilizer, seeds, feeds, and farm implements are found only in Palmer, Fairbanks, Anchorage, and Homer. The Matanuska Valley Farmers' Cooperating Association is the only sales organization that carries a complete stock of farm supplies, equipment, and parts.

Prospects for Increased Production and Marketing of Alaskan Food Products

Agricultural growth during the 1960's may be comparable to that of recent years. Most growth will occur through enlarging existing farms rather than developing new ones. The greater part of any increase in the quantity of farm products is likely to come in commodities presently produced--fresh milk, eggs, potatoes and vegetables. Unless there is a greater influx of new residents than is now anticipated, the additional cropland required during the next 10 years will not exceed 10,000 acres.

Alaska has the potential for a sizable agriculture. More than a million acres of land is suitable for clearing and cropping. An additional 3 to 5 million acres of range, located largely in southwestern Alaska, could be used for year-round grazing of cattle or sheep. However, much of the land suitable for agriculture is in small, scattered acreages and much is remote from markets. These conditions retard development at present, but eventually much of this great area may be included in farms.

Development of raw timberlands into paying farm land requires hard work, a lot of capital and confidence. The high cost of clearing the land and of building materials, farm implements, and other farm supplies that must be imported makes Alaskan agricultural production a high cost operation.

In view of the high production costs and large capital investment required in Alaska, compared with other States, it is doubtful if local farmers can appreciably increase their share of the local market for food. Any big increase probably would necessitate growing food products that require more processing, or selling in more distant markets, both of which would mean lower net returns per unit of product. Substantial increases in the volume Alaskan farmers can sell profitably probably must await growth of local or export markets.

A gradual increase in beef and sheep numbers during the next decade is anticipated. Eventually, Alaskan production may provide a significant part of the State's meat supply. Retail meat sales in recent years in the State may have equaled $9 million. At present, Alaskan farmers supply less than 5 percent of the meat sold commercially. It may become feasible to export grass-fat beef or lambs as well as wool to the west coast States or possibly Japan. Any significant increase in sales of fresh milk depends chiefly upon supplying the total requirements of the Armed Forces. If this is realized, a greater acreage planted to grain and roughages will be necessary for feeding dairy cows.

As long as the volume of farm products remains small, farmers probably will have to continue to do most of their own marketing, if a farmers' cooperative marketing organization is not available. At present the volume of products in most areas is too small to permit profitable operations by assemblers, processors, and other dealers in farm products.

OUTPUT PER MAN-HOUR AND LABOR COSTS IN FOOD PROCESSING 1/

Output per man-hour by all employees in factories that process domestic farm food products grew at an average annual rate of 2.9 percent from 1947 to 1960. This is significantly smaller than the annual rate for the total private economy, but the same as that for the private nonfarm sector. Output per man-hour in farming rose more than twice as fast as in food processing industries; this difference can be explained by the fact that substitution of capital for labor was larger in farming than in food processing industries.

The postwar rise in output per man-hour in factories that process farm foods reflects an increase in total capital per worker, improved "quality" of labor and management inputs, economies of scale and, probably most important, the introduction of new technology. The postwar rate of growth was significantly retarded by shifts in output among industries. Shifts occurred from industries with higher levels of output per man-hour to those with lower levels.

In the food processing industries, hourly earnings of employees increased during 1960. They were about four-fifths larger that year than the average for 1947-49. But because of the gains in output per man-hour unit labor costs were up less than a third for the period. The percentage increase in unit labor costs was about the same as the general price rise in the total economy.

A preliminary estimate indicates that during 1960 output per man-hour worked by all employees in factories processing domestic farm food products was 40 percent greater than the average for 1947-49 (table 10). This means that roughly seven-tenths as many man-hours per unit of output are required in factory processing now as were required a dozen years ago. 2/ Production per man-hour rose each year after 1948 (fig. 1), but year to year increases varied widely. Factory production of processed farm foods rose almost continously after 1948--in 1960 it was 33 percent greater than the average for 1947-49. During those years the total number of man-hours worked by all employees fluctuated about a fairly constant or slightly declining level.

1/ Prepared by William H. Waldorf, economist, Marketing Economics Division, Economic Research Service. Index numbers used in this article were developed as part of a broad investigation of changes in productivity of resources employed in marketing domestic farm food products. A more comprehensive report, including a discussion of methods, sources, and limitations of the indexes will be published as Technical Bulletin 1243, Output Per Man-Hour in Factory Processing of Farm Food Products.

2/ The reciprocal of output per man-hour used in this article measures changes in unit man-hour requirements for a changing product "mix."

Table 1.--Production, man-hours, production per man-hour, hourly earnings per employee, and unit labor cost in factories processing farm foods, United States, 1947-60 1/ (1947-49 = 100)

	Production 2/	Man-hours 3/	Production per man-hour	Hourly earnings 4/	Unit labor cost 5/
1947	101	101	99	94	94
1948	99	100	99	101	103
1949	100	99	102	105	103
1950	103	99	104	110	106
1951	106	101	105	121	115
1952	108	102	106	127	120
1953	112	6/ 97	6/ 115	6/ 134	6/ 117
1954	113	97	117	140	119
1955	117	98	119	145	122
1956	124	100	124	152	123
1957	124	98	126	158	126
1958	126	97	130	166	128
1959	130	7/ 96	7/ 136	7/ 174	7/ 128
1960	7/ 133	7/ 96	7/ 139	7/ 181	7/ 130

1/ Excludes processing of fluid milk, cream, and eggs.

2/ Measures physical output of manufacturing establishments processing domestically produced farm food products; includes food byproducts.

3/ Based on all employees and average hours worked, as defined in Census of Manufactures.

4/ Total payroll divided by man-hours (col. 2).

5/ Total payroll divided by production (col. 1).

6/ Revised sampling plan in Annual Survey of Manufactures beginning in 1953 somewhat affects comparability with earlier years. Comparison of employment data reported in Annual Surveys and by the Bur Labor Stat. suggests that average annual rate of growth in output per man-hour from 1947 to 1959 was not significantly affected by the revision.

7/ Preliminary.

Compiled from Census of Manufactures, Annual Surveys of Manufactures, and data published by U. S. Dept. Agr. Employment, hours, and earnings data published by U. S. Dept. Labor also used for several years.

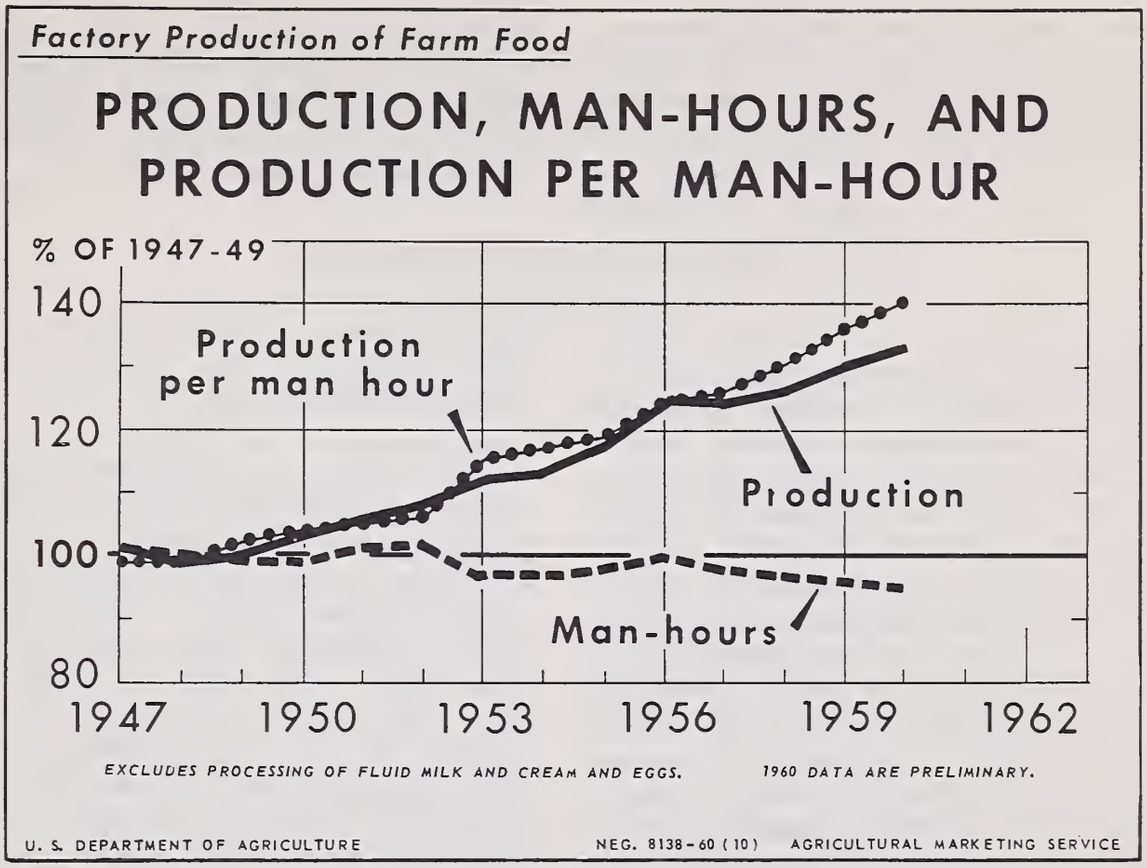

Figure 1

Series used in this article are for manufacturing establishments primarily engaged in processing domestically produced farm food products, including factory processing of farm foods--except fluid milk, cream and eggs--for export, for the Armed Forces, and for Government purchases used in various relief programs, as well as food for sale to civilian consumers. It excludes factory processing of imported foods, seafoods, and other foods not produced on domestic farms. It also excludes manufacture of alcholic and nonalcholic beverages.

Comparison With Other Sectors 3/

The average annual rate of growth in output per man-hour worked by all employees between 1947 and 1959 was significantly smaller in factories processing farm food products (2.8 percent) than in the total private economy (3.4 percent). The larger rate in the total private economy resulted from a large annual rate in farming (6.2 percent); in the private nonfarm sector, which includes manufacturing, trade, and service industries, output per man-hour rose at the same yearly rate (2.8 percent) as in food processing industries.

The dramatic rate of growth of output per man-hour in agriculture reflects, among other things, a large substitution of capital for labor in farming. The value of assets per worker (in 1947-

3/ The average annual rates of growth of output per man-hour worked by all employees in the private economy, in agriculture, and in the private nonagricultural sector were computed from Bur. Labor Stat. annual estimates reported in Trends in Output Per Man-Hour in the Private Economy, 1909-58, BLS Bull. 1249 (1959), and BLS release, Output Per Man-Hour in the Private Economy, 1959, U. S. Dept. Labor-4155 (June 20, 1960). All average annual rates of growth presented in this article were obtained by fitting exponential curves by least squares (Glover's method) to annual data.

49 prices) used in farm production was nearly 70 percent greater in 1960 than in 1947, according to the Economic Research Service. This increase was considerably larger than the rise in total capital per worker in food manufacturing, and accounts for the faster rate of growth of output per man-hour in farming than in food processing.

Factors Affecting Ouput Per Man-Hour

The postwar rise of output per man-hour in factory processing was accompanied by an increase in the stock of total capital per worker. However, technological improvement in capital goods probably was the most important single factor contributing to the growth in output per man-hour. Technological innovations in materials handling, continuous processes, electronic temperature and humidity controls, packaging, grading, and other developments have all made a dramatic impact on output per man-hour. Growth of kilowatt hours of electric power used reflects, among other things, the employment of more electric power-driven equipment required by newer technology. Between 1947 and 1958, the number of kilowatt hours consumed in food manufacturing plants rose about 50 percent compared with a rise of about 25 percent in the production of food. Development of frozen foods, blended and prepared flour mixes, and other new products in which output per man-hour either is higher, or is rising faster than the average for all processed foods, also contributed to the overall increase in output per man-hour.

Increases in the "quality" of labor inputs through education, training, experience, and other kinds of investment in human capital also added substantially to the growth in output per man-hour. During the postwar period, the number of engineers, technicians, and other highly trained employees who worked in food processing plants increased significantly. 4/ Economies of scale resulting from extension of the market for processed farm foods probably also contributed significantly to the postwar growth in output per man-hour.

The index of output per man-hour in factory processing reflects shifts in production among industries, plants, products, and, in general, all possible changes in the product "mix." Shifts in production from industries with higher levels, to industries with lower levels of output per man-hour moderated the rate of growth in the average output per man-hour for the food processing industries during the postwar period. If the 1947 (or 1957) product mix had remained constant during the postwar years, output per man-hour in food processing industries would have grown at about the same yearly rate as in the total private economy (3.4 percent). Thus, within the limits of available data, there is no evidence that the postwar rise in output per man-hour within individual food processing industries or plants was larger or smaller than the average for the total private economy.

Changes in the product mix will continue for some time to exert a dampening influence on the growth of output per man-hour in factories processing farm food products. Income elasticities for farm foods estimated by the Economic Research Service indicate that as "real" per capita income rises (other things remaining the same) consumers shift to meat products, for which output per man-hour is currently below the average for all processed foods, and from grain-mill products, for which output per man-hour is currently above the average. 5/ To

4/ See, Scientific Workers in Food Manufacturing Industries, by Imogene Bright, this issue pp. 33-36.

5/ Fox, Karl A., "Factors Affecting Farm Income, Farm Prices, and Food Consumption," U. S. Dept. Agr., Agricultural Economics Research, 3:65-86, 1951.

some extent, these dampening influences will be tempered by a shift to manufactured dairy products where both income elasticity and output per man-hour are high compared with the average for all processed foods. Among the other major groups--bakery products, fruits and vegetables, and sugar and confectionery products--output per man-hour is roughly the same as the average for all processed farm foods.

Unit Labor Cost

Hourly earnings of employees in factories processing farm food products (based on hours worked by all employees) were about 80 percent higher in 1960 than in 1947-49; but, because of the rise in output per man-hour, unit labor costs were 30 percent above the base period figure (table 10). During the postwar period, hourly earnings have moved continuously upward and, since 1951, at a sharp and constant rate (fig. 2). Production per man-hour rose each postwar year except one, but at a markedly slower pace than hourly earnings. As a consequence, unit labor cost has risen, particularly since 1953.

The sharp rise in hourly earnings was not confined to food manufactures; it was part of a sharp postwar increase in all manufactures. The large increase in hourly earnings reflects, among other things, inflationary price and wage rises in the economy as a whole: The implicit price deflator for gross national product constructed by Department of Commerce, the most comprehensive price series available, rose about 30 percent between 1947-49 and 1959. Comparison of the price deflator with the rise in hourly earnings in food processing between 1947-49 and 1959 (table 10), indicates that roughly half of the rise in hourly

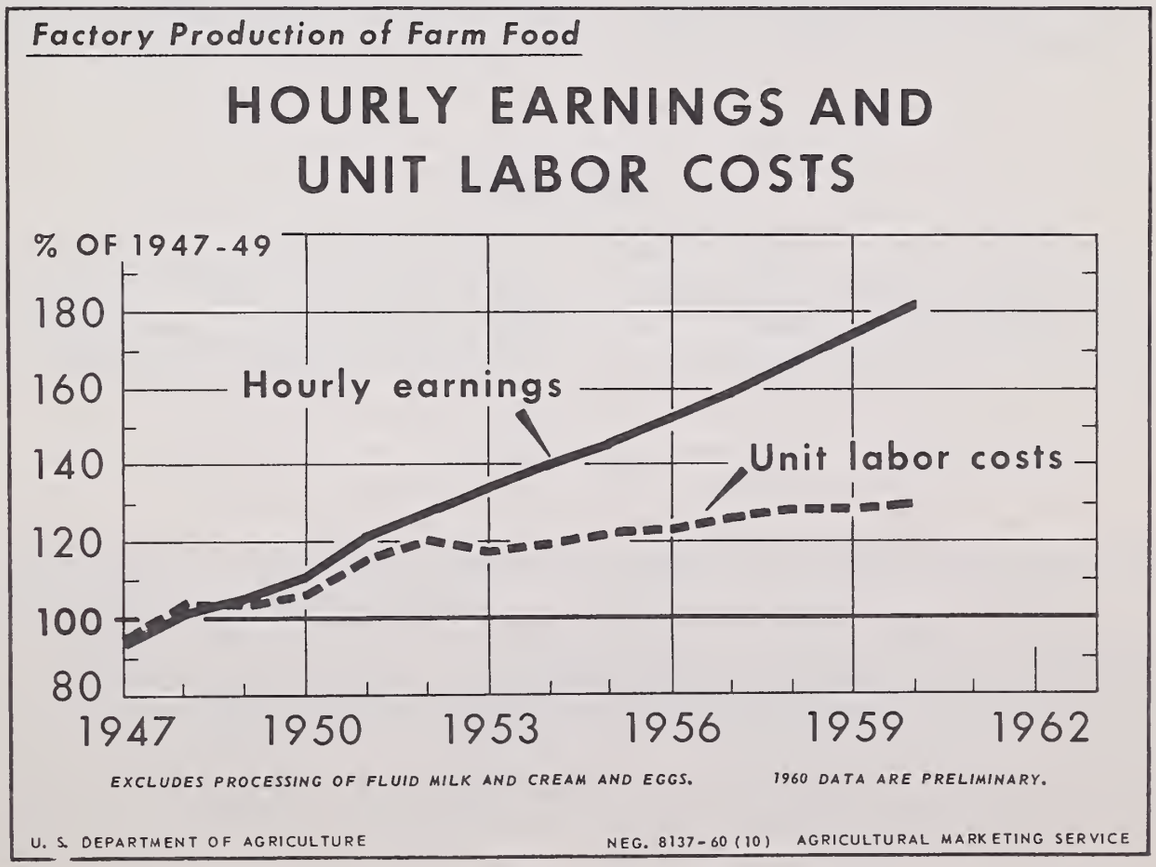

Figure 2

earnings can be attributed to the general price rise. The remaining half resulted from a shift to more technical, higher paid jobs which increased the all-employee average, and from "normal" market forces which require food manufacturers to pay competitive wages in order to attract and hold employees. The noninflationary growth in hourly earnings in food processing from 1947-49 to 1959, was about the same as the growth of output per man-hour. This suggests that if there had been no overall inflation, unit labor cost in food processing industries would have remained constant during the postwar years.

Nonlabor charges (profits, taxes, depreciation, advertising, and other operating expenses) per unit of output in factory processing rose faster than unit labor cost from 1947-49 to 1958, the latest year for which these data are available. 6/

The larger increase in nonlabor charges in food processing reflects the substitution of capital, technology, and other production inputs for labor; and it also reflects larger outlays for advertising and similar operating expenses. Total unit processing charges, the sum of unit labor and nonlabor charges, were about a third larger in 1958 than in 1947-49. This rise increased the spread between wholesale prices of processed food products and prices paid to farmers for the raw materials.

6/ Nonlabor charges are measured by subtracting total payrolls for all employees from "value added," reported in Census and Annual Surveys of Manufactures. Value added, as used in the Census of Manufactures, is "calculated by subtracting the cost of materials, supplies, containers, fuel, purchased electric energy, and contract work from the total value of shipments." Unit nonlabor charges include fringe benefits which accounted for about 7 percent of total employees' compensation in food and kindred products manufactures during 1957, according to the Bureau of the Census.

SCIENTIFIC WORKERS IN THE FOOD MANUFACTURING INDUSTRIES 1/

A dramatic factor that has contributed to the growth in output per man-hour in the factory processing of farm food products is new technology. But to achieve these technological changes, food processing companies added numerous technicians and scientific workers to the labor force.

Since World War II, production workers in the food processing industry have been declining in number, whereas the number of other-than-production workers has been increasing. 2/ This change in composition of the labor force is partly explained by technological changes. The classification "other-than-production workers" includes employees who perform administrative, professional, clerical, and sales jobs, as well as those performing scientific and engineering activities.

Scientific workers represent a small proportion of employment in the food processing industry, but their wages and salaries are among the highest in the industry. They include chemists, engineers, mathematicians, agricultural scientists and biological and other scientists. The greatest increase in employment of these workers occurred between 1954 and 1957; there was little change between 1957 and 1959.

This article is based on surveys by the National Science Foundation of employment of scientific workers and outlays for research and development by American industries. These data relate only to establishments specializing in the manufacture of food and kindred products. Not included in this article is employment in research and development activities that may contribute to the technological advance of the food processing industry undertaken by the chemical industry, the machinery products industry, the electrical equipment industries, universities, independent commercial laboratories, engineering service firms, trade associations, or Government agencies.

Employment

About 15,400 scientists and technicians were employed by food and kindred products manufacturing companies in 1959; of these 4,100 were engineers (table 11). About half of the scientists, including engineers, performed functions connected with production and operations. 3/ The next largest group was employed in re-

1/ Prepared by Imogene Bright, agricultural economist, Marketing Economics Division, Economic Research Service.

2/ "Changing Composition of Labor Force in Food Manufacturing Industry," Imogene Bright, The Marketing and Transportation Situation, July 1957, pp. 16-21.

3/ Production and operations include "work primarily related to the production processes or operations of a company such as inspection, quality control, etc." Included are "design analysis and testing that are not part of research-development." National Science Foundation, Scientific and Technical Personnel in American Industry, 1960, p. 61.

Table 11.--Scientists and technicians classified by occupational group, food and kindred products manufacturing industry, 1959

Occupational group	Number
Scientists:	
Engineers	4,100
Chemists	3,900
Mathematicians	100
Agricultural scientists	1,100
Biological scientists	500
Other scientists	400
	1/10,200
Technicians:	
Draftsmen	800
Engineering and physical science technicians	1,500
Medical, agricultural and biological technicians	1,400
Other technicians	1,500
	5,200
Total	15,400

1/ Items do not add to total because of small number not reported for following groups: Physicists, metallurgists, geologists, and geophysicists.

National Science Foundation, Scientific and Technical Personnel in American Industry, 1960, pp. 28, 43.

Table 12.--Scientists classified by primary function, food and kindred products, industry, 1959

Functions	Number 1/	Percent
Production and operations	5,000	49
Research and development	2,800	28
Management and administration of:		
Research and development	900	9
Other activities	800	8
All other activities	600	6
Total	10,200	100

1/ Items do not add to total because of rounding.

National Science Foundation, Scientific and Technical Personnel in American Industry, 1960, p. 33.

search and development (table 12). 4/ Chemists made up the largest group of scientists engaged in research and development in the food and kindred products industry. About 20 percent of the technicians working in this industry were engaged in research and development activities.

Expenditures for Research

The food and kindred products manufacturing industry spent about $80 million in 1958 for research and development; in 1953 about $54 million was spent for these activities. 5/ Company-financed research and development expenditures amounted to around 0.3 percent of net sales in 1957. 6/

In 1957 the food and kindred products manufacturing industry reported an average annual research and development cost per scientist, including engineers, of $20,200; in 1953 this average was $15,000. 7/ These estimates include salaries, cost of materials and equipment, and all other direct and supporting costs, plus a portion of overhead items such as administration, depreciation, and space charges. Wages and salaries of research and development personnel made up about 62 percent of this total. 8/

The share of total research and development costs attributed to direct labor depends greatly upon the character of research and development done. In some research projects, salaries of the principal investigator and assistants comprise the main costs of the project, but salaries make up a smaller proportion of the total cost in research and development projects that require the use of expensive materials and equipment in the construction and testing of models or prototypes. The food and kindred products industry was among the industries with the highest percentage of total research and development costs allocated to wages and salaries. 9/.

4/ Research and development include "basic and applied research in the natural sciences (including medicine) and engineering and design and development of prototypes and processes." The definition does not include "quality control, routine product testing, market research, sales promotion, sales service, or other nontechnical activities, or technical services. If the primary objective is to make further improvements on the product or process, then the work is research-development. If on the other hand, the product or process is substantially 'set', and the primary objective is to develop markets, do preproduction planning or get the production process going smoothly, then the work is no longer research-development." Included are "all supervisors who spend more time on actual research-development work than on administration of research-development." National Science Foundation, Scientific and Technical Personnel in American Industry, 1960, p. 61.

5/ National Science Foundation, "Reviews of Data on Research and Development," May 1960, pp. 3-5, and Science and Engineering in American Industry, 1959, p. 8.

6/ National Science Foundation, Funds for Research and Development in Industry, 1957, 1960, p. 89.

7/ National Science Foundation, Science and Engineering in American Industry, 1956, pp. 32-34; Funds for Research and Development in Industry, 1957, 1960, p. 84.

8/ National Science Foundation, Funds for Research and Development in Industry, 1957, 1960, p. 86.

9/ National Science Foundation, Funds for Research and Development in Industry, 1960, p. 22.

Companies Employing Scientific Workers

Approximately 7 percent of all food processing companies hired scientists and technicians in 1959. Employment of these workers was directly correlated with size of the company; more larger companies than smaller ones hired them. Among companies with 5,000 or more employees, almost 97 percent hired scientific employees; among companies employing fewer than 100 persons about 4 percent hired scientists and engineers (table 13).

Scientists are among the highest paid nonproduction workers. Although their salaries are relatively high, accomplishments of these workers have provided new and improved products. Many advances in the technology of food manufacturing, however, may be attributed to scientific workers employed by other industries serving the food processing industries. To compete effectively, firms manufacturing food and kindred products probably will increase their efforts to develop new products and reduce costs; this could mean even greater use of scientific workers in the years ahead.

Table 13.--Percentage of companies in food and kindred products industry employing scientists and technicians, by employee size, 1959

Company classification	Scientists and engineers	Technicians
	Percent	Percent
Companies with total employment of:		
1 - 99	3.8	3.4
100 - 499	22.5	17.5
500 - 999	58.8	52.9
1,00 - 4,999	79.1	64.3
5,000 or more	96.9	96.9
All companies	7.2	6.1

National Science Foundation, Scientific and Technical Personnel in American Industry, 1960, pp. 27, 41.

MARKETING SPREADS FOR TURKEYS IN SELECTED CITIES 1/

Farm-retail spreads for medium turkeys in five major cities in the United States averaged 9 percent wider in the heavy marketing season, October-December, of 1960 than a year earlier. All of the increase was the result of a rise in retail store spreads, which are influenced largely by retail store pricing policies. The spread between prices paid by retailers and received by farmers decreased. Except for one year, the farm-retailer spread has decreased annually since 1956. This downward trend probably was due to: (1) Concentrations of turkey processing in fewer but larger plants, (2) movements toward more complete vertical integration or market coordination in the turkey industry, and (3) innovations in equipment and technology which reduced costs. Year-to-year fluctuations in the retail store spread, however, have resulted in similar fluctuations in the total farm-retail spread.

Farm-retail spreads for medium turkeys in five major United States cities--Boston, Chicago, Los Angeles, New York, and St. Louis--averaged 17.8 cents a pound in October-December 1960--an increase of 1.5 cents from 1959 (table 14). 2/ Similar spreads for large turkeys were 21.1 cents a pound in 1960, 3.5 cents wider than in 1959. 3/ During the fourth quarter of 1960, farm-retail spreads on medium turkeys narrowed from 19.8 cents a pound, in October to 15.1 cents in December. This decline was due mostly to a drop in retail store spreads, from 10.0 cents a pound, in October to 6.1 cents in December.

Elements of the Spread

Fourth-quarter retail store spreads have fluctuated considerably from year to year since 1956, the first year for which complete data were available (fig. 3). Five-city average retail store spreads for the last five seasons show no consistency either as absolute or percentage markups over prices paid by retailers. Year-to-year changes in retail prices often were inconsistent with changes in prices at other market levels.

These changes in retail store spreads for turkeys reflect the influence of retail store pricing policies on consumer prices. Retailers are interested primarily in

1/ Prepared by Leo R. Gray, agricultural economist, Marketing Economics Division, Economic Research Service.

2/ The farm-retail price spread is the difference between the retail selling price per pound and the farm-value or payment farmers receive for the equivalent quantity of live turkey. The retail store spread is the difference between the retail selling price and the price paid by the retailer. The farm-retailer spread is the difference between the price paid by the retailer and the farm value.

3/ For a more detailed presentation of data for 1959 see: Gray, Leo R., "Marketing Spreads for Turkeys in Selected Cities," The Marketing and Transportation Situation, July 1960, pp. 19-24.

Table 14.--Turkeys, medium and large: Price spreads and prices per pound, ready-to-cook basis, at various market levels, selected cities, averages October-December 1956-60

Size of turkey, 1/ year, and city	Price spreads					Prices			
	Farm-retail	Retail-store	Farm-retailer spread: Total	Farm-retailer spread: Receiver-retailer	Farm-retailer spread: Farm-receiver	Retail	To retailers	To city receivers 2/	Farm value 3/
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Medium turkeys:									
5-city average 4/									
1960	5/17.8	5/8.5	9.3	2.6	6.7	5/54.0	45.5	42.9	36.2
1959	16.3	6/5.9	6/10.4	6/3.1	6/7.3	50.7	6/44.8	6/41.7	34.4
1958	21.8	6/10.0	6/11.8	6/3.1	6/8.7	52.6	6/42.6	6/39.5	30.8
1957	18.3	6/6.6	6/11.7	6/2.6	6/9.1	49.7	6/43.1	6/40.5	31.4
1956	22.0	6/9.6	6/12.4	6/2.8	6/9.6	55.8	6/46.2	6/43.4	33.8
Individual cities, 1960									
Boston	18.5	10.6	7.9	1.9	6.0	54.6	44.0	42.1	36.1
Chicago	15.7	5.2	10.5	3.2	7.3	51.9	46.7	43.5	36.2
Los Angeles	18.2	9.2	9.0	2.5	6.5	54.5	45.3	42.8	36.3
New York	5/18.3	5/8.9	9.4	2.1	7.3	5/54.5	45.6	43.5	36.2
St. Louis	18.3	8.5	9.8	3.5	6.3	54.5	46.0	42.5	36.2
Atlanta	18.9	7.8	11.1	4.9	6.2	55.1	47.3	42.4	36.2
Baltimore	21.4	11.5	9.9	3.0	6.9	57.5	46.0	43.0	36.1
Cleveland	19.9	9.1	10.8	2.5	8.3	56.0	46.9	44.4	36.1
San Francisco	21.0	10.4	10.6	5.3	5.3	57.3	46.9	41.6	36.3
Washington, D. C.	22.9	12.3	10.6	2.8	7.8	59.1	46.8	44.0	36.2
Large turkeys:									
5-city average 4/									
1960	5/21.1	5/9.4	11.7	2.7	9.0	5/51.5	42.1	39.4	30.4
1959	5/17.6	5/6/3.3	6/14.3	7/	7/	5/49.2	6/45.9	7/	31.6
1958	21.6	6/8.6	6/13.0	6/2.8	10.2	47.3	6/38.7	6/35.9	25.7
1957	20.8	6/7.4	6/13.4	6/2.6	10.8	45.3	6/37.9	6/35.3	24.5
1956	21.8	6/8.3	6/13.5	6/2.8	10.7	52.9	6/44.6	6/41.8	31.1
Individual cities, 1960									
Boston	5/26.1	5/14.0	12.1	2.6	9.5	5/56.4	42.4	39.8	30.3
Chicago	20.5	7.2	13.3	3.3	10.0	50.5	43.3	40.0	30.0
Los Angeles	19.4	9.9	9.5	2.5	7.0	50.1	40.2	37.7	30.7
New York	5/19.3	5/7.0	12.3	2.0	10.3	5/49.8	42.8	40.8	30.5
St. Louis	20.5	8.9	11.6	3.1	8.5	50.8	41.9	38.8	30.3
Atlanta	7/	7/	14.4	4.0	10.4	7/	44.8	40.8	30.4
Baltimore	7/	7/	5/12.7	3.1	5/9.6	7/	43.0	39.9	5/30.3
Cleveland	5/24.7	5/11.9	12.8	3.3	9.5	5/54.9	43.0	39.7	30.2
San Francisco	5/21.2	5/6.5	14.7	3.8	10.9	5/51.9	45.4	41.6	30.7
Washington, D. C.	24.0	11.7	12.3	2.2	10.1	54.4	42.7	40.5	30.4

1/ Turkey size weight ranges are: Medium -- 8 to 16 pounds, and large -- more than 16 pounds.

2/ City receiver prices in Chicago, Los Angeles, and New York are wholesale selling prices but in the other 7 cities are f.o.b. delivered city prices.

3/ Farm value is the payment received by producers for the quantity of live turkey equivalent to 1 pound of ready-to-cook turkey. These values are weighted averages computed from prices reported in major commercial turkey producing areas such as San Joaquin Valley, Shenandoah Valley, and the Midwest supplying the designated cities.

4/ 5-city average includes Boston, Chicago, Los Angeles, New York, and St. Louis.

5/ Estimated from data for less than 3 months.

6/ Revised.

7/ Insufficient data.

Compiled from retail prices collected by the Bureau of Labor Statistics and from prices to retailers, city receiver prices, and prices received by farmers collected by Federal and State market news services.

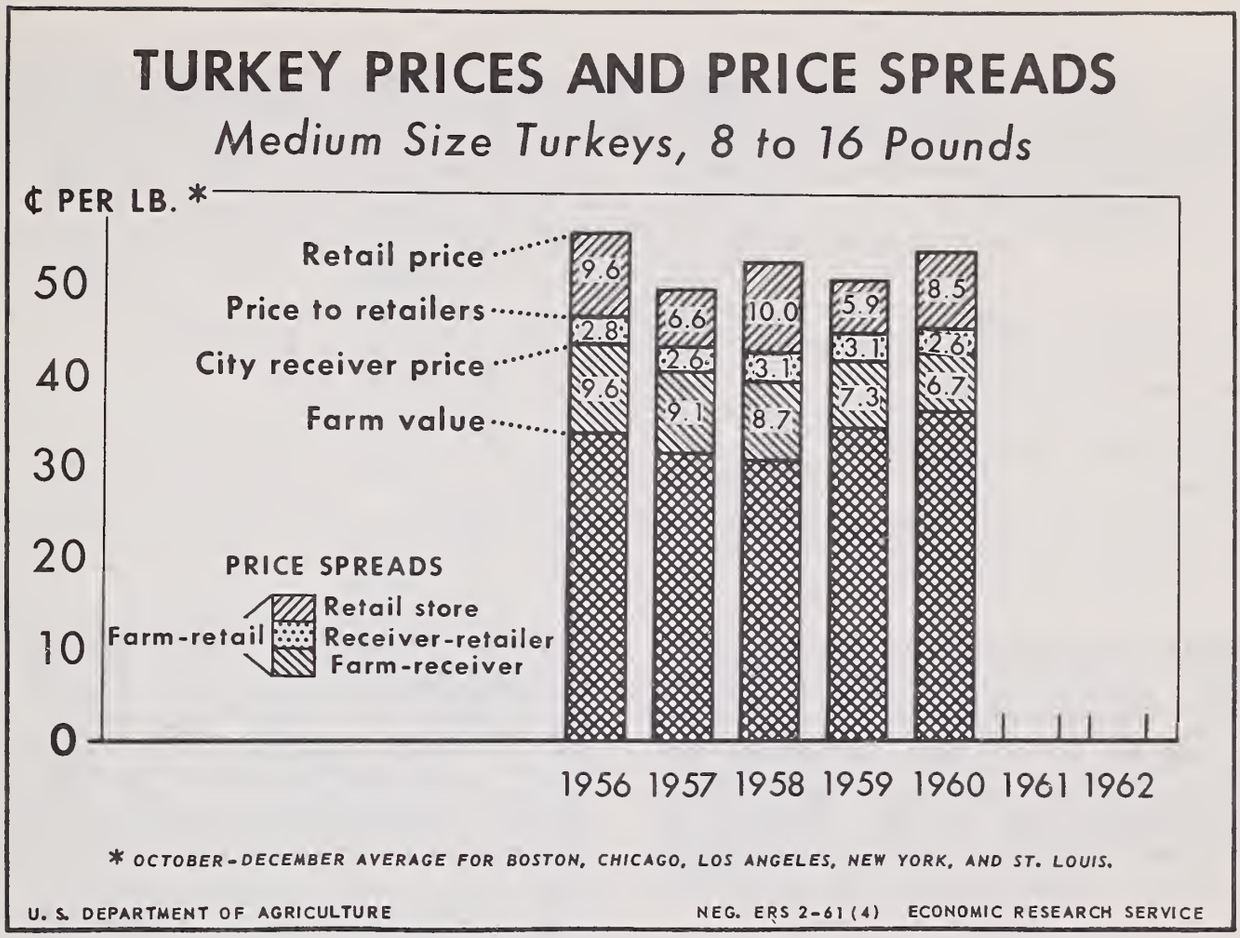

Figure 3.

achieving certain overall markup goals for their entire operation. They usually make appropriate adjustments in the price spreads of various individual commodity lines, such as turkeys, to help arrive at their overall goal.

Retail store price spreads for medium turkeys among the 10 major United States cities in 1960 were narrowest in Chicago and widest in Washington, D. C. (table 14). Farm-retailer spreads were narrowest in Boston and widest in Atlanta.

Five-city average farm-retailer price spreads for medium turkeys have decreased almost every year since 1956. These decreases were due largely to declines in farm-city receiver spreads. For example, fourth quarter farm-city receiver spreads for medium turkeys marketed in Chicago narrowed 1.8 cents a pound from 1958 to 1960 (table 15). Closer analysis shows that these declines resulted from decreasing farm-to-shipping point spreads, which cover the marketing functions of assembling and processing. Transportation is the major marketing function included in the shipping point-to-city receiver spread.

Table 15.--Turkeys, medium: Price spreads per pound, ready-to-cook basis, between producer in North Central States and Chicago receiver, fourth quarter 1958-1960

Price spread	1960	1959	1958
	Cents	Cents	Cents
Farm-to-Chicago receiver	7.3	7.8	9.1
Farm-to-shipping point	4.9	6.0	7.1
Shipping point-to-Chicago receiver	2.4	1.8	2.0

Possible explanations for the downward movement in farm-city receiver spreads may be: (1) Concentrations of turkey processing in fewer but larger plants; (2) movements toward more complete vertical integration or market coordination in the turkey industry; and (3) innovations in equipment and technology which reduced costs.

Spreads between prices at all market levels averaged wider in the five cities for large turkeys than for medium turkeys in 1960 (table 14). These spreads have not always been wider for large turkeys. Retail store spreads for large turkeys were exceptionally narrow in 1959. Year-to-year changes in price spreads for large turkeys were generally in the same direction as those for medium turkeys. Inter-city relations of price spreads for large turkeys differed from those for medium turkeys.

Price Changes

Five-city average prices during October-December were higher for medium turkeys at all market levels in 1960 than in 1959 (table 14). In 1960, prices for medium turkeys increased each month at all market levels except retail. Retail prices increased slightly from October to November, but declined in December. Prices at all market levels during the fourth quarter varied less in 1960 than in 1959.

In contrast with prices of medium turkeys, prices of large turkeys were higher in 1960 than a year earlier, at retail, but lower at other market levels. Retail prices for large turkeys declined each month from October to December 1960. At other market levels, prices for large turkeys declined from October to November, but increased again in December.

Medium turkey prices were higher in 1960 than a year earlier, partly because of shorter supplies of small birds. The shortage was caused by a sharp drop in number of Beltsville turkeys raised in 1960 from the numbers raised in 1959. More heavy-breed turkeys were raised in 1960 than in 1959, but many were slaughtered at light weights to help meet the demand for small birds. Total annual slaughter of all turkeys in commercial processing plants was about 7 percent higher in 1960 than in 1959. Cold storage holdings of turkeys at the beginning of each month were greater from June through December 1960 than for the comparable period of 1959. Other influences on the turkey market in 1960 were the Federal Government, which purchased sizable quantities of turkeys in each of the past 3 years, and exports of more than double the 1959 volume.

Merchandising methods for presenting turkeys to consumers in alternative forms have been developed to increase consumption. These methods include sales of turkey parts, including quartered birds; deboned, rolled turkey; and turkey sausage. Emphasis on sales of turkey meat in these forms probably contributed substantially to the greater proportion of large turkeys in the total turkey crop in recent years.

Newspaper Advertised Prices for Thanksgiving and Christmas

Turkey prices advertised in newspapers by leading supermarkets generally were higher for the Christmas than the Thanksgiving holidays in 1960. These prices for medium turkeys in the five cities averaged 43.5 cents a pound the week before Thanksgiving and about 47.0 cents the week before Christmas; an increase of 3.5 cents. In 1959, Christmas prices were about the same as in 1960, but Thanksgiving prices were about 41.0 cents, thus indicating an increase of approximately 6.0 cents between the holidays.

Prices for large turkeys advertised in newspapers in 1960 were about 38.5 cents at Thanksgiving and 40.5 cents at Christmas. These prices did not increase as much in 1960 as in 1959, when prices were 38.0 cents at Thanksgiving and 45.0 cents at Christmas.

Small turkey prices were mostly 48.0 to 49.0 cents a pound in the five cities for both the 1960 Thanksgiving and Christmas holidays. In 1959 prices at Christmas were also about 48.0 cents, but were nearly 5 cents less at Thanksgiving.

Comparison of Price Spreads for Turkeys and Chickens

Five-city average farm-retail price spreads for October-December 1960 were 2.1 cents a pound less on medium turkeys than on frying chickens (table 16). Compared with farm-retail spreads on frying chickens, similar spreads on medium turkeys were 2.2 cents narrower in 1959, but 0.9 cent wider in 1958. For both medium turkeys and frying chickens, farm-retail price spreads were wider in 1960 than in 1959.

Retail store spreads averaged at least 2.0 cents less on medium turkeys than on frying chickens in the fourth quarters of 1958-1960. Year-to-year fluctuations in retail store spreads were larger for medium turkeys than for frying chickens. Increases in retail store spreads accounted for most of the gain in farm-retail spreads for both commodities.

Farm-retailer spreads were wider for medium turkeys than for frying chickens in 1958 and 1959, but were identical for both commodities in 1960. These spreads narrowed each year for medium turkeys, but widened for frying chickens. Increases in farm-retailer price spreads for frying chickens were due to widening city receiver-retailer spreads.

Farm-city receiver price spreads not only declined for both medium turkeys and frying chickens from 1958 to 1960, but the difference in these spreads between the two commodities narrowed from 2.4 cents a pound in 1958 to 0.9 cent in 1960. Declining farm-city receiver spreads accounted for most of the drop in farm-retailer spreads from 1958 to 1960.

Prices for medium turkeys at various market levels during October-December 1960 were at least 13 cents a pound higher than prices for frying chickens. Prices for frying chickens in the five cities averaged lower during the fourth quarter of 1960 than a year ealier at all levels except retail, but, as previously stated, prices for medium turkeys were higher at all market levels in 1960.

Table 16--Price spreads per pound (ready-to-cook basis) for medium size turkeys and frying chickens, averages for five large cities, October-December, 1958-1960 1/

Spread	Medium turkeys			Frying chickens		
	1960	1959	1958	1960	1959	1958
	Cents	Cents	Cents	Cents	Cents	Cents
Farm-retail	17.8	16.3	21.8	19.9	18.5	20.9
Retail store	8.5	2/ 5.9	2/10.0	10.6	9.6	12.1
Farm-retailer	9.3	2/10.4	2/11.8	9.3	8.9	8.8
Receiver-retailer	2.6	2/ 3.1	2/ 3.1	3.5	2.9	2.5
Farm-receiver	6.7	2/ 7.3	2/ 8.7	5.8	6.0	6.3

1/ The five cities are: Boston, Chicago, Los Angeles, New York, and St. Louis.
2/ Revised.

SELECTED NEW PUBLICATIONS

1. "Analysis of Factors Affecting Costs of Producing Grade A Milk in Georgia," by J. C. Purcell, J. R. Russell, and J. C. Elrod, Ga. Agr. Expt. Sta., Tech. Bul. N. S. 21, Dec. 1960.
2. "Class III Milk in the New York Milkshed"--"V-Processors' Decisions on Utilization," by Louis F. Herrmann, Donald B. Agnew, and D. A. Clarke, Jr., U.S. Dept. Agr., Mktg. Res. Rpt. 462, Mar. 1961.
   "VI-Economic Analysis of Class III Pricing," by D. A. Clarke, Jr., and Louis F. Herrmann, U.S. Dept. Agr., Mktg. Res. Rpt. 466, Mar. 1961.
3. Effectiveness of a Special Promotional Campaign for Frozen Concentrated Orange Juice," by Peter L. Henderson and Signey E. Brown, U.S. Dept. Agr., Mktg. Res. Rpt. 457, Mar. 1961.
4. "Expenditures for Processed Foods by Employee Food Services in Manufacturing Plants," by Rosalind C. Lifquist, U.S. Dept. Agr., Mktg. Res. Rpt. 458, Mar. 1961.
5. "Food Costs--Retail Prices - Farm Prices - Marketing Spreads," U.S. Dept. Agr., AMS, Misc. Pub. 856, Apr. 1961.
6. "Grower-Processor Coordination in the California Broiler Industry," by John A. Jamison, Calif. Agr. Expt. Sta., Res. Rpt. 239, Dec. 1960. (Giannini Foundation of Agr. Econ. and AMS cooperating.)
7. "Impact of the St. Lawrence Seaway on the Location of Grain Export Facilities," by Nicholas M. Thuroczy, U.S. Dept. Agr., Mktg. Res. Rpt. 442, Dec. 1960.
8. "Improved Accounting Methods for Wholesale Food Distributors," by Daniel J. Bartz and John C. Bouma, U.S. Dept. Agr., Mktg. Res. Rpt. 454, Mar.1961.
9. "Improving Methods and Facilities for Cattle Slaughtering Plants in the Southwest," by Donald R. Hammons and Jarvis E. Miller, U.S. Dept. Agr., Mktg. Res. Rpt. 436, Feb. 1961. (Texas Agr. Expt. Sta. and AMS cooperating.)
10. "Marketing Margins for Fall Potatoes," by John K. Hanes, U.S. Dept. Agr., Mktg. Res. Rpt. 450, Feb. 1961.
11. "Milk Dating Regulations--Their Effect on Milk Distribution and Merchandising Practices," by Helen T. Blake and Lloyd F. Friend, U.S. Dept. Agr., Mktg. Res. Rpt. 415, Mar. 1961.
12. "Reporting Egg Prices at Shipping Points in Iowa and Minnesota," by Fred L. Faber, John R. Pedersen, and John O. Gerald, U.S. Dept. Agr., Mktg. Res. Rpt. 445, Jan. 1961.
13. "Seasonal Variation in Farm Food Prices and Price Spreads," by Hazen F. Gale, U.S. Dept. Agr., Misc. Pub. 840, Jan. 1961.

Publications issued by State Agricultural Experiment Stations may be obtained from the issuing Station.

Table 17.- Farm food products: Retail cost and farm value, January-March 1961, October-December 1960, January-March 1960, and 1947-49 average 1/

Product 2/	Retail unit	Retail cost: Jan.-Mar. 1961 4/	Retail cost: Oct.-Dec. 1960 5/	Retail cost: Jan.-Mar. 1960	Retail cost: 1947-49 average	Retail cost: Percentage change Jan.-Mar. 1961 from Oct.-Dec. 1960	Retail cost: Percentage change Jan.-Mar. 1961 from Jan.-Mar. 1960	Net farm value 3/: Jan.-Mar. 1961 4/	Net farm value 3/: Oct.-Dec. 1960 5/	Net farm value 3/: Jan.-Mar. 1960	Net farm value 3/: 1947-49 average	Net farm value 3/: Percentage change Jan.-Mar. 1961 from Oct.-Dec. 1960	Net farm value 3/: Percentage change Jan.-Mar. 1961 from Jan.-Mar. 1960
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Dollars	Dollars	Dollars	Dollars	Percent	Percent
Market basket 6/	Average quantities purchased per urban wage-earner and clerical-worker family in 1952	1,068.63	1,065.19	1,029.90	940.09	7/	4	420.61	5/418.71	5/398.04	466.02	7/	6
Meat products		284.08	278.27	268.57	256.08	2	6	149.59	5/146.66	141.70	170.90	2	6
Dairy products		203.06	203.07	199.11	169.28	7/	2	90.98	5/ 92.25	89.18	91.66	-1	2
Poultry and eggs		94.52	99.47	84.74	117.01	-5	12	58.39	63.11	51.28	80.69	-7	14
Bakery and cereal products													
All ingredients		167.27	166.88	162.50	121.96	7/	3	29.77	5/ 28.36	5/ 28.21	34.97	5	6
Grain		---	---	---	—	---	---	21.79	21.11	5/ 21.50	24.96	3	1
All fruits and vegetables		233.14	231.67	230.89	184.68	1	1	70.51	5/ 69.20	5/ 70.46	60.93	2	7/
Fresh fruits and vegetables		136.04	136.99	137.58	103.91	-1	-1	48.95	5/ 49.63	5/ 50.94	42.91	-1	-4
Fresh vegetables		69.92	67.04	74.22	53.17	4	-6	20.45	20.79	5/ 25.90	22.97	-2	-21
Processed fruits and vegetables		97.10	94.68	93.31	—	3	4	21.56	5/ 19.57	5/ 19.52	—	10	10
Fats and oils		41.76	41.32	40.63	52.21	1	3	14.15	11.97	10.08	19.84	18	40
Miscellaneous products		44.81	44.51	43.46	38.87	1	3	7.22	7.16	5/ 7.14	7.03	1	1
		Cents	Cents	Cents	Cents	Percent	Percent	Cents	Cents	Cents	Cents	Percent	Percent
Beef (Choice grade)	Pound	81.9	79.9	81.2	68.5	3	1	48.8	47.7	50.3	48.5	2	-3
Lamb (Choice grade)	Pound	68.7	69.5	68.8	63.9	-1	7/	32.5	31.9	36.6	44.2	2	-11
Pork (retail cuts)	Pound	59.7	59.0	52.3	59.4	1	14	31.5	31.6	25.3	39.7	7/	25
Butter	Pound	76.5	76.4	74.7	79.4	7/	2	54.3	54.3	52.8	59.3	0	3
Cheese, American process	1/2 pound	37.1	35.6	33.8	29.8	4	10	15.2	5/15.8	14.9	16.0	-4	2
Ice cream	1/2 gallon	87.0	86.4	87.6	—	1	-1	8/23.2	8/23.2	8/22.6	—	0	3
Milk, evaporated	14½ ounce can	15.8	15.8	15.7	13.7	0	1	6.7	6.5	6.4	7.1	3	5
Milk, fluid	Quart	25.5	25.8	25.3	20.1	-1	1	11.1	11.3	11.0	10.6	-2	1
Chickens, frying, ready-to-cook	Pound	42.0	41.1	43.3	—	2	-3	23.2	21.7	24.1	—	7	-4
Eggs	Dozen	59.8	65.7	48.4	66.7	-9	24	39.4	45.7	31.2	48.0	-14	26
Bread, white													
All ingredients	Pound	20.9	20.8	19.9	13.5	7/	5	2.9	2.8	5/ 2.8	3.3	4	4
Wheat	Pound	---	---	---	—	---	---	2.4	2.3	5/ 2.3	2.7	4	4
Crackers, soda	Pound	29.1	29.0	28.9	—	7/	1	3.7	3.6	3.7	—	3	0
Corn flakes	12 ounces	26.0	25.9	25.7	17.1	7/	1	2.6	2.2	2.2	3.2	18	18
Corn meal	Pound	13.1	13.1	13.1	11.8	0	0	2.6	2.3	2.2	3.6	13	18
Flour, white	5 pounds	56.1	55.9	54.7	48.4	7/	3	18.5	18.1	18.4	21.0	2	1
Rolled oats	18 ounces	22.3	22.2	21.7	14.5	7/	3	3.7	3.6	4.0	4.9	3	-7
Apples	Pound	15.7	14.2	14.1	11.9	11	11	5.8	5.5	4.8	4.3	5	21
Grapefruit	Each	12.5	15.5	12.1	8.5	-19	3	1.9	2.7	2.1	1.4	-30	-10
Lemons	Pound	21.4	21.5	19.2	17.7	7/	11	5.4	6.4	4.7	5.7	-16	15
Oranges	Dozen	72.5	83.0	64.2	46.6	-13	13	29.3	30.3	21.4	12.6	-3	37
Beans, green	Pound	27.8	23.5	31.2	21.1	18	-11	12.3	9.6	14.0	9.3	28	-12
Cabbage	Pound	9.2	8.0	10.7	6.9	15	-14	1.5	1.8	2.3	1.9	-17	-35
Carrots	Pound	15.5	14.5	13.3	11.1	7	17	3.5	3.9	2.2	4.0	-10	59
Celery	Pound	13.3	13.2	14.8	—	1	-10	3.3	3.2	3.9	—	3	-15
Lettuce	Head	16.8	16.9	18.9	14.5	-1	-11	4.5	6.6	7.8	6.3	-32	-42
Onions	Pound	9.2	8.6	8.5	8.4	7	8	2.4	1.6	1.5	3.7	50	60
Potatoes	10 pounds	65.0	66.4	67.8	51.9	-2	-4	18.5	19.9	5/24.8	25.6	-7	-25
Sweetpotatoes	Pound	15.2	13.2	12.7	11.6	15	20	5.8	4.5	5/ 4.1	4.8	29	41
Tomatoes	Pound	31.2	28.4	37.0	—	10	-16	9.6	8.9	14.6	—	8	-34
Orange juice, canned	46 ounce can	46.7	42.9	44.0	—	9	6	18.7	14.1	13.1	—	33	43
Peaches, canned	No. 2-1/2 can	33.6	33.6	33.6	31.5	0	0	5.3	5.3	5.5	5.3	0	-4
Beans with pork, canned	16 ounce can	14.9	14.8	14.9	—	1	0	2.0	1.9	2.0	—	5	0
Corn, canned	No. 303 can	20.2	19.7	18.8	16.7	3	7	2.3	2.3	2.3	2.7	0	0
Peas, canned	No. 303 can	21.8	21.5	20.0	21.4	1	9	3.0	3.0	3.0	3.0	0	0
Tomatoes, canned	No. 303 can	16.3	16.0	15.4	14.2	2	6	2.4	2.4	2.3	2.6	0	4
Orange juice concentrate, frozen	6 ounce can	24.6	23.0	22.7	—	7	8	9.7	8.6	10.0	—	13	-3
Strawberries, frozen	10 ounces	27.1	27.0	26.6	—	7/	2	7.2	7.2	6.9	—	0	4
Beans, green, frozen	9 ounces	23.1	23.1	22.7	—	0	2	4.5	4.5	4.3	—	0	5
Peas, frozen	10 ounces	21.0	20.5	19.9	—	2	6	2.9	2.9	3.2	—	0	-9
Dried beans (navy)	Pound	16.8	16.6	16.8	19.9	1	0	5.6	5.3	5.7	9.7	6	-2
Dried prunes	Pound	41.2	40.2	39.4	23.1	2	5	18.7	5/18.0	5/17.4	8.8	4	7
Margarine, colored	Pound	27.4	27.0	27.1	39.7	1	1	9.4	7.7	6.2	12.2	22	52
Peanut butter	Pound	55.6	55.5	55.4	—	7/	7/	18.8	18.3	18.5	—	3	2
Salad dressing	Pint	36.0	36.0	36.2	37.8	0	-1	7.5	6.6	5.7	10.0	14	32
Vegetable shortening	3 pounds	85.3	83.9	81.6	105.6	2	5	32.8	27.4	21.9	46.2	20	50
Corn sirup	24 ounces	26.9	26.7	26.6	—	1	1	2.7	2.5	2.7	—	8	0
Sugar	5 pounds	59.4	59.4	57.5	48.4	0	3	20.6	20.6	5/20.7	19.4	0	7/

1/ The methods of calculation and the sources of price data are given in Part II of "Farm-Retail Spreads for Food Products," U. S. Dept. Agr. Misc. Pub. 741, 1957.

2/ Product groups include more items than those listed in this table. For example, the meat products group includes veal and lower grades of beef in addition to carcass beef of Choice grade, lamb, and pork.

3/ Gross farm value adjusted to exclude imputed values of byproducts obtained in processing.

4/ Preliminary estimates.

5/ Most retail cost figures for Oct.-Dec. 1960 have been revised; figures in other columns revised as indicated.

6/ Sum of product groups may differ slightly from market-basket total because of rounding of averages.

7/ Less than 0.5 percent.

8/ Farm value of cream and milk only.

Table 18 - Farm food products: Farm-retail spread and farmer's share of the retail cost, January-March 1961, October-December 1960, January-March 1960, and 1947-49 average 1/

Product 2/	Retail unit	Farm-retail spread 3/						Farmer's share			
		Jan.-Mar. 1961 4/	Oct.-Dec. 1960 5/	Jan.-Mar. 1960	1947-49 average	Percentage change Jan.-Mar. 1961 from - Oct.-Dec. 1960	Percentage change Jan.-Mar. 1961 from - Jan.-Mar. 1960	Jan.-Mar. 1961 4/	Oct.-Dec. 1960	Jan.-Mar. 1960	1947-49 average
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Percent	Percent	Percent	Percent
Market basket 6/	(Average quantities purchased per urban wage-earner and clerical-worker family in 1952)	648.02	646.48	5/63.186	474.07	7/	3	39	39	39	50
Meat products		134.49	131.61	126.87	85.18	2	6	53	53	53	67
Dairy products		112.08	110.82	109.93	77.62	1	2	45	45	45	54
Poultry and eggs		36.13	36.36	33.46	36.32	-1	8	62	5/63	61	69
Bakery and cereal products											
All ingredients		137.50	138.52	5/134.29	86.99	-1	2	18	17	17	29
Grain		---	---	---	---	---	---	13	13	13	20
All fruits and vegetables		162.63	162.47	5/160.43	123.75	7/	1	30	30	5/31	33
Fresh fruits and vegetables		87.09	87.36	5/ 86.64	61.00	7/	1	36	36	37	41
Fresh vegetables		49.47	46.25	5/ 48.32	30.20	7	2	29	31	5/35	43
Processed fruits and vegetables		75.54	75.11	5/ 73.79	—	1	2	22	21	21	—
Fats and oils		27.61	29.35	30.55	32.37	-6	-10	34	29	25	38
Miscellaneous products		37.59	37.35	5/ 36.32	31.84	1	3	16	16	16	18
		Cents	Cents	Cents	Cents	Percent	Percent	Percent	Percent	Percent	Percent
Beef (Choice grade)	Pound	33.1	32.2	30.9	20.0	3	7	60	60	62	71
Lamb (Choice grade)	Pound	36.2	37.6	32.2	19.7	-4	12	47	46	53	69
Pork (retail cuts)	Pound	28.2	27.4	27.0	19.7	3	4	53	54	48	67
Butter	Pound	22.2	22.1	21.9	20.1	7/	1	71	71	71	75
Cheese, American process	1/2 pound	21.9	19.8	18.9	13.8	11	16	41	44	44	54
Ice cream	1/2 gallon	63.8	63.2	65.0	—	1	-2	27	27	26	—
Milk, evaporated	14½ ounce can	9.1	9.3	9.3	6.6	-2	-2	42	41	41	52
Milk, fluid	Quart	14.4	14.5	14.3	9.5	-1	1	44	44	43	53
Chickens, frying, ready-to-cook	Pound	18.8	19.4	19.2	—	-3	-2	55	53	56	—
Eggs	Dozen	20.4	20.0	17.2	18.7	2	19	66	70	64	72
Bread, white											
All ingredients	Pound	18.0	18.0	5/17.1	10.2	0	5	14	13	5/14	24
Wheat	Pound	---	---	---	—	---	---	11	11	12	20
Crackers, soda	Pound	25.4	25.4	25.2	—	0	1	13	12	13	—
Corn flakes	12 ounces	23.4	23.7	23.5	13.9	-1	7/	10	8	9	19
Corn meal	Pound	10.5	10.8	10.9	8.2	-3	-4	20	18	17	31
Flour, white	5 pounds	37.6	37.8	36.3	27.4	-1	4	33	32	34	43
Rolled oats	18 ounces	18.6	18.6	17.7	9.6	0	5	17	16	18	34
Apples	Pound	9.9	8.7	9.3	7.6	14	6	37	39	34	36
Grapefruit	Each	10.6	12.8	10.0	7.1	-17	6	15	17	17	16
Lemons	Pound	16.0	15.1	14.5	12.0	6	10	25	30	24	32
Oranges	Dozen	43.2	52.7	42.8	34.0	-18	1	40	5/37	33	27
Beans, green	Pound	15.5	13.9	17.2	11.8	12	-10	44	5/41	45	44
Cabbage	Pound	7.7	6.2	8.4	5.0	24	-8	16	23	21	28
Carrots	Pound	12.0	10.6	11.1	7.1	13	8	23	27	17	36
Celery	Pound	10.0	10.0	10.9	—	0	-8	25	24	26	—
Lettuce	Head	12.3	10.3	11.1	8.2	19	11	27	5/39	41	43
Onions	Pound	6.8	7.0	7.0	4.7	-3	-3	26	19	18	44
Potatoes	10 pounds	46.5	46.5	5/43.0	26.3	0	8	28	30	5/37	49
Sweetpotatoes	Pound	9.4	8.7	5/ 8.6	6.8	8	9	38	34	5/32	41
Tomatoes	Pound	21.6	19.5	22.4	—	11	-4	31	5/31	39	—
Orange juice, canned	46 ounce can	28.0	28.8	30.9	—	-3	-9	40	33	30	—
Peaches, canned	No. 2-1/2 can	28.3	28.3	28.1	26.2	0	1	16	16	16	17
Beans with pork, canned	16 ounce can	12.9	12.9	12.9	—	0	0	13	13	13	—
Corn, canned	No. 303 can	17.9	17.4	16.5	14.0	3	8	11	12	12	16
Peas, canned	No. 303 can	18.8	18.5	17.0	18.4	2	11	14	14	15	14
Tomatoes, canned	No. 303 can	13.9	13.6	13.1	11.6	2	6	15	15	15	18
Orange juice concentrate, frozen	6 ounce can	14.9	14.4	12.7	—	3	17	39	37	44	—
Strawberries, frozen	10 ounces	19.9	19.8	19.7	—	1	1	27	27	26	—
Beans, green, frozen	9 ounces	18.6	18.6	18.4	—	0	1	19	19	19	—
Peas, frozen	10 ounces	18.1	17.6	16.7	—	3	8	14	14	16	—
Dried beans (navy)	Pound	11.2	11.3	11.1	10.2	-1	1	33	32	34	49
Dried prunes	Pound	22.5	22.2	5/22.0	14.3	1	2	45	5/45	5/44	38
Margarine, colored	Pound	18.0	19.3	20.9	27.5	-7	-14	34	29	23	31
Peanut butter	Pound	36.8	37.2	36.9	—	-1	7/	34	33	33	—
Salad dressing	Pint	28.5	29.4	30.5	27.8	-3	-7	21	18	16	26
Vegetable shortening	3 pounds	52.5	56.5	59.7	59.4	-7	-12	38	33	27	44
Corn sirup	24 ounces	24.2	24.2	23.9	—	0	1	10	9	10	—
Sugar	5 pounds	38.8	38.8	5/36.8	29.0	0	5	35	35	5/36	40

1/ The methods of calculation and the sources of price data are given in Part II of "Farm-Retail Spreads for Food Products," U. S. Dept. Agr. Misc. Pub. 741, 1957.

2/ Product groups include more items than those listed in this table. For example, the meat products group includes veal and lower grades of beef in addition to carcass beef of Choice grade, lamb, and pork.

3/ The farm-retail spread is the difference between the retail cost and the net farm value, table on opposite page.

4/ Preliminary estimates.

5/ Most farm-retail spread figures for Oct.-Dec. 1960 have been revised; figures in other columns revises as indicated.

6/ Sum of product groups may differ slightly from market-basket total because of rounding of averages.

7/ Less than 0.5 percent.

Table 19.- Farm food products: Retail cost, farm value of equivalent quantities sold by producers, byproduct allowance, farm-retail spread, and farmer's share of retail cost, January-March 1961 1/

Product 2/	Farm equivalent	Retail unit	Retail cost	Gross farm value	Byproduct allowance	Net farm value	Farm-retail spread	Farmer's share
			Dollars	Dollars	Dollars	Dollars	Dollars	Percent
Market basket 3/			1,068.63	---	---	420.61	648.02	39
Meat products			284.08	---	---	149.59	134.49	53
Dairy products			203.06	---	---	90.98	112.08	45
Poultry and eggs		Average quantities	94.52	---	---	58.39	36.13	62
Bakery and cereal products	Farm produce equivalent	purchased per urban						
All ingredients	to products bought	wage-earner	167.27	---	---	29.77	137.50	18
Grain	by urban families	and	---	24.91	3.12	21.79	---	13
All fruits and vegetables		clerical-	233.14	---	---	70.51	162.63	30
Fresh fruits and vegetables		worker family	136.04	---	---	48.95	87.09	36
Fresh vegetables		in 1952	69.92	---	---	20.45	49.47	29
Processed fruits and vegetables			97.10	---	---	21.56	75.54	22
Fats and oils			41.76	---	---	14.15	27.61	34
Miscellaneous products			44.81	---	---	7.22	37.59	16
			Cents	Cents	Cents	Cents	Cents	Percent
Beef (Choice grade)	2.16 lb. Choice grade cattle	Pound	81.9	53.0	4.2	48.8	33.1	60
Lamb (Choice grade)	2.41 lb. lamb	Pound	68.7	40.1	7.6	32.5	36.2	47
Pork (retail cuts)	2.13 lb. hogs	Pound	59.7	37.0	5.5	31.5	28.2	53
Butter	Cream and whole milk	Pound	76.5	---	---	54.3	22.2	71
Cheese, American process	Milk for American cheese	1/2 pound	37.1	---	---	15.2	21.9	41
Ice cream	Cream and milk	1/2 gallon	87.0	---	---	4/23.2	63.8	27
Milk, evaporated	Milk for evaporating	14-1/2 ounce can	15.8	---	---	6.7	9.1	42
Milk, fluid	Wholesale fluid milk	Quart	25.5	---	---	11.1	14.4	44
Chickens, frying, ready-to-cook	1.37 lb. broilers	Pound	42.0	---	---	23.2	18.8	55
Eggs	1.03 doz.	Dozen	59.8	---	---	39.4	20.4	66
Bread, white								
All ingredients	Wheat and other ingredients	Pound	20.9	---	---	2.9	18.0	14
Wheat	.894 lb. wheat	Pound	---	2.7	.3	2.4	---	11
Crackers, soda	1.40 lb. wheat	Pound	29.1	4.2	.5	3.7	25.4	13
Corn flakes	1.57 lb. white corn	12 ounces	26.0	3.4	.8	2.6	23.4	10
Corn meal	1.34 lb. white corn	Pound	13.1	2.9	.3	2.6	10.5	20
Flour, white	7.0 lb. wheat	5 pounds	56.1	21.0	2.5	18.5	37.6	33
Rolled oats	2.31 lb. oats	18 ounces	22.3	4.3	.6	3.7	18.6	17
Apples	1.08 lb. apples	Pound	15.7	---	---	5.8	9.9	37
Grapefruit	1.04 grapefruit	Each	12.5	---	---	1.9	10.6	15
Lemons	1.04 lb. lemons	Pound	21.4	---	---	5.4	16.0	25
Oranges	1.04 doz. oranges	Dozen	72.5	---	---	29.3	43.2	40
Beans, green	1.09 lb. snap beans	Pound	27.8	---	---	12.3	15.5	44
Cabbage	1.10 lb. cabbage	Pound	9.2	---	---	1.5	7.7	16
Carrots	1.06 lb. carrots	Pound	15.5	---	---	3.5	12.0	23
Celery	1.11 lb. celery	Pound	13.3	---	---	3.3	10.0	25
Lettuce	1.41 lb. lettuce	Head	16.8	---	---	4.5	12.3	27
Onions	1.06 lb. onions	Pound	9.2	---	---	2.4	6.8	26
Potatoes	10.42 lb. potatoes	10 pounds	65.0	---	---	18.5	46.5	28
Sweetpotatoes	1.12 lb. sweetpotatoes	Pound	15.2	---	---	5.8	9.4	38
Tomatoes	1.18 lb. tomatoes	Pound	31.2	---	---	9.6	21.6	31
Orange juice, canned	5.88 lb. Fla. oranges for canning	46 ounce can	46.7	---	---	18.7	28.0	40
Peaches, canned	1.89 lb. Calif. cling	No. 2-1/2 can	33.6	---	---	5.3	28.3	16
Beans with pork, canned	.35 lb. Mich. dry beans	16 ounce can	14.9	---	---	2.0	12.9	13
Corn, canned	2.49 lb. sweet corn	No. 303 can	20.2	---	---	2.3	17.9	11
Peas, canned	.69 lb. peas for canning	No. 303 can	21.8	---	---	3.0	18.8	14
Tomatoes, canned	1.84 lb. tomatoes for processing	No. 303 can	16.3	---	---	2.4	13.9	15
Orange juice concentrate, frozen	3.05 lb. Fla. oranges for frozen concentrated juice	6 ounce can	24.6	---	---	9.7	14.9	39
Strawberries, frozen	.51 lb. strawberries for processing	10 ounces	27.1	---	---	7.2	19.9	27
Beans, green, frozen	.71 lb. beans for processing	9 ounces	23.1	---	---	4.5	18.6	19
Peas, frozen	.70 lb. peas for freezing	10 ounces	21.0	---	---	2.9	18.1	14
Dried beans (navy)	1.00 lb. Mich. dry beans	Pound	16.8	---	---	5.6	11.2	33
Dried prunes	.97 lb. dried prunes	Pound	41.2	---	---	18.7	22.5	45
Margarine, colored	Soybeans, cottonseed, and milk	Pound	27.4	---	---	9.4	18.0	34
Peanut butter	1.77 lb. peanuts	Pound	55.6	---	---	18.8	36.8	34
Salad dressing	Cottonseed, soybeans, sugar, and eggs	Pint	36.0	---	---	7.5	28.5	21
Vegetable shortening	Soybeans and cottonseed	3 pounds	85.3	---	---	32.8	52.5	38
Corn sirup	1.90 lb. corn	24 ounces	26.9	3.4	.7	2.7	24.2	10
Sugar	37.03 lb. sugar beets	5 pounds	59.4	21.7	1.1	5/20.6	5/38.8	5/35

1/ The methods of calculation and the sources of price data are given in Part II of "Farm-Retail Spreads for Food Products," U. S. Dept. Agr. Misc. Pub. 741, 1957.

2/ Product groups include more items than those listed in this table. For example, the meat products group includes veal and lower grades of beef in addition to carcass beef of Choice grade, lamb, and pork.

3/ Market basket total may differ from sum of product group totals because of rounding of averages.

4/ Includes farm value of cream and milk only.

5/ Net farm value adjusted for Government payments to producer was 25.0 cents, farm-retail spread adjusted for Government processor tax was 36.1 cents, farmer's share of retail cost based on adjusted farm value was 42 percent.

Preliminary estimates.

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